ST/ESA/SER.R/24

NATIONAL EXPERIENCE IN THE FORMULATION AND IMPLEMENTATION OF POPULATION POLICY, 1960-1976

MALI

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Department of International Economic and Social Affairs

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PREFACE

Since the World Population Conference was held under the auspices of the United Nations in 1974 there has been growing interest among policy makers in the complex interrelations between population and development, with population policy being an area of increasing concern.

The following study is one of a series of reports prepared during 1975 and 1976 by the Population Division of the Department of International Economic and Social Affairs of the United Nations Secretariat, in an attempt to disseminate information among interested Governments and scholars on the experience of various Governments in formulating and implementing population policies. The series, when completed, is intended to include all countries in the world and examine the variety of situations and solutions adopted by Governments, which have often been determined by particular historical, political, socio-economic or cultural circumstances. The information included in the series would be useful to the national bodies assisting Governments in the area of population and related fields, as well as to the international organizations that are attempting to increase knowledge of the ways in which Governments may most effectively resolve problems associated with population.

Although the reports have been prepared with all possible care, there may possibly be errors or omissions. Comments or corrections from Governments would be appreciated.

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INTRODUCTORY NOTE

During the first part of the period under discussion, from 1960 to 1968, the Government of President Keita was primarily concerned with its attempt to restructure along generally socialist lines the economy and the society of the country. During the second part of the period, from 1968 to 1976, the succeeding Government, that of President Traoré was concerned with the restoration of the country's financial position and with overcoming the numerous problems resulting from the Sahelian drought, which increased in intensity from 1968 to 1973. Neither of the two Governments considered that demographic trends were as significant as economic, social and environmental factors as underlying causes of developmental problems. With certain exceptions, both Governments considered that, in general, demographic trends either contributed positively to development, at least, or did not unduly constrain it. Their principal concern was with the reduction of levels of morbidity and mortality, and with an associated improvement in qualitative aspects of individual fertility. In this latter regard, the Government of President Traoré carried out the first officially sponsored family planning programme in any of the countries formerly under French administration in Africa south of the Sahara. The perceptions of the implications for their development objectives of demographic trends which were adopted by successive Governments having substantially different approaches to development, but both working in the context of severe structural and environmental constraints, renders an examination of national experience in the formulation and implementation of population policies during the period 1960-1976 of particular interest.

Because of the significant change in the orientation of development strategy which occurred with the replacement of the Government of President Keita by that of President Traoré in 1968, this study has been divided into two sections, the first dealing with the period 1960-1968, the second dealing with that of 1968-1976.

I. THE PERIOD 1960-1968

The political and economic situation

After achieving internal autonomy in May 1957 the country became the Republic of the Sudan within the French Community in October 1958, and during the following year formed with Senegal the Federation of Mali. In August 1960 this federation broke up, and in September of the same year the Republic of Mali was established under the leadership of the Union soudanaise, originally the local branch of the Rassemblement démocratique africain (RDA), and under the presidency of Modibo Keita. During the period to 1967 the Government of President Keita attempted to establish a socialist state, against the powerful opposition of traditional commercial interests. Political dissatisfaction and economic problems led by 1967 to the Government being faced by overwhelming difficulties, and after a number of political changes between August 1967 and January 1968, it was removed by a military coup d'état led by Lieutenant Moussa Traoré and fellow officers.

At the time of colonial occupation the country's economy consisted predominantly of a traditional sector, including mainly subsistence and partly subsistence units of agriculture, fishing and livestock-herding--in some instances nomadic and semi-nomadic in character--and handicrafts, small industries and local and regional trade systems. The French colonial economy had only to a limited extent altered this situation, in part by stimulating exports of cotton, ground-nuts and livestock, by expanding production for an increased but still small urban population, and by imposition of various fiscal constraints upon traditional long distance trade. Apart from creation of the area of irrigated agriculture developed in the internal delta of the River Niger by the Office du Niger, and a minimal social and economic infrastructure, there had been very little modernization of economic activities. Levels of living were extremely low.

During the period of the Government of President Keita a vigorous attempt was made to establish a socialist economy, with substantial state control of commercial distribution, of limited industrialization of the import-substitution type, and with a re-orientation of external economic relationships. Although substantial assistance was received from a variety of sources, and some progress made in the secondary and tertiary sectors, little success was achieved in the predominant agricultural sector. Partly as a result of the dislocations of the traditional economy caused by these attempts, and particularly because of the failure to obtain the support of the traditional agricultural sector, and partly because of the onset in 1967 of the period of Sahelian drought which was to last until 1973, extreme economic difficulties were experienced, and contributed largely to the dissatisfaction which culminated in the removal of President Keita and his Government from office in 1968.

Development planning

During the period of French administration a ten-year development plan had been formulated in 1947, and superseded by two four-year development plans for 1949-1953 and 1953-1957. These plans, formulated for the entire French Union, of which Mali represented an economically unimportant part, were concerned primarily with the establishment of basic economic and some social infrastructure, and certain productive projects, of which the Office du Niger was the only one within Mali. They had the over-all objective of assisting in the evolution of the colonial economy.

Implementation of the third of the French colonial four-year plans was interrupted in 1959 by the formation of the Federation of Mali, including Mali and Senegal. The new Federal Government decided to prepare a four-year plan. A Planning Commission was established at Bamako, and Professor J. Benard, a French specialist, was retained as consultant. Under his direction the main lines of a possible development strategy consistent with the policies of the Union soudanaise were elaborated and sectoral programmes prepared during 1959.

In August 1960 the Federation broke up, and the following month the Republic of Mali was established. At a Congress of the Union Soudanaise held at Bamako in September economic options were examined, basic policies elaborated and a set of directives given to the technical planning team. These directives, which were published in 1961 as a report on the five-year plan, were: to give priority to the development of agricultural production in order to achieve economic independence; to diversify the economy by means of industrialization in order both to increase the value added to produce for export and to substitute for imported goods wherever possible; to engage in systematic research into the mineral, petroleum and hydroelectric resources of the country as the basis for subsequent industrialization; and to define a social policy which would create acceptable conditions for a modern life for the least advantaged sections of the population. In this way it was hoped that economic independence might be achieved.

Between September 1960 and the end of the year a planning team within the Planning Service of the Ministry of Rural Economy and Planning, under the direction of Professor Bénard and including the Egyptian economist Samir Amin, undertook to translate the Congress directives into a concrete plan. National accounts were prepared for 1959 and the sectoral programmes prepared previously for the Federation's proposed four-year plan were revised and integrated within a comprehensive whole. After substantial dialogue between the technical planning team and the politically responsible Council of Ministers and the National Committee for Planning and Economic Direction a draft plan was completed in December 1960. This was intended for the four-year period from January 1961 to December 1964. The draft was approved by the Government and the Union Soudanaise in January 1961, and was published by the Service du Plan later that year. It proposed very high priority to increased

agricultural production for both export and internal consumption, import substitution activities and severe austerity with respect to administrative expenditures.

Although approving the draft plan, the Government proposed its extension to a fifth year, and during the first quarter of 1961 further revisions were carried out by the technical planning team. A draft five-year plan for 1961-1965 was approved by the Government in August 1961. However, during the period after August 1960 the Government had been faced with severe financial and economic problems resulting from the breaking up of the Federation of Mali. Moreover, as the Ministry of Rural Economy and Planning did not have overall responsibility for allocation of budgetary or supplementary resources, very considerable allocations were made to unproductive infrastructure outside the plan and to administrative expenditures. In July 1962 Professor Bénard prepared a study showing the detrimental impact of such unplanned expenditures, and in September of that year a new Planning Ministry was established under a newly appointed minister and with expanded powers. In the light of the existing circumstances, a revision of the existing plan was undertaken, and a five-year plan for the period 1961-1966 was approved by the Government in January 1963.

The plan was presented to the National Assembly as a finance law concerning expenditure on programmes submitted for sectors in November 1962 to the Committee of Planning and Economic Direction. An annual average rate of growth of gross domestic product (GDP) of 8 per cent for the period 1962-1967 was envisaged, to be based upon a very substantial increase in productivity in the agricultural sector which would result from expansion of extension services and infrastructure. Two thirds of investment were to be made in directly productive projects. 1/

During the period 1963-1966 the programmes envisaged in the revised plan were implemented within the context of an over-all attempt by the Government of President Keita to establish a socialist economy. This was to be achieved by means of the establishment of rural co-operatives and state control of major capital investment projects in the rural sector and of most secondary and many tertiary activities. Attempts to integrate the rural economy within this structure failed because of the lack of trained personnel, insufficient incentives to increase production and the opposition of traditional commercial interests which controlled the non-subsistence output of the rural sector. After the termination of the plan period, short-term efforts were made to redress an increasingly severe financial and economic situation. Two reports pointed to

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1/ The plan did not appear as a formal document. It was summarized in S. Amin, Trois expériences africaines de développement: le Mali, la Guinée et le Ghana (Paris, Presses Universitaires de France, 1965), pp. 114-125.

the need for a thorough modernization of the rural sector: one, prepared at the direction of the Inter-State Committee for the Development of the Senegal Basin (Comité inter-états pour l'aménagement du bassin du fleuve Sénégal); and a second which concentrated on the study of problems and prospects in rural development, at the request of the Governments of Mali, Niger and Upper Volta was prepared by the United Nations Economic Commission for Africa (ECA). The Government of President Keita itself reported upon the failure of its economic policy in discussions held at Mopti in 1965 and in a report on economic trends published after a devaluation in May 1967, as did the succeeding Government in appraisals of the carrying out of the first five-year plan published in 1963. Because of the attempt to establish a socialist economy and society which to a considerable extent would be independent of the pre-existing colonial and neo-colonial system, this period of development planning in Mali has been the subject of substantial study. 2/

Information on the general demographic situation and trends

During the period of French administration information on the demographic situation was limited to the results of administrative enumerations, which were considered to be underestimations of total population together with a very small number of studies of local populations and collations of information derived from various other sources. In September 1956 a socio-economic mission for the Sudan was established with the purpose of undertaking comprehensive surveys of the area being developed for irrigated agriculture by the Office du Niger, together with adjacent areas (Mopti and Macina). Studies were prepared of agriculture, fisheries, household budgets and consumption, nutrition and demography. Thus from April 1957 a demographic sample survey was undertaken in the traditional villages, where a sample of 1 in 10 was taken of about 170,000 persons, and separate studies were made of the population of Mopti and three small centres, together having a population of about 28,000. The provisional results were published in February 1958. The national accounts prepared in 1958 for the Federation of Mali contained a summary for 1956 of information on the demographic situation.

During 1958 a further sample survey was undertaken within the Niger Delta area of the Office du Niger project and this was published in 1962 and 1963. Between June and August 1958 a census was undertaken in Bamako. 3/

2/ Studies used in the preparation of this report are cited in the Bibliography.

3/ It is most probable that the results were made available locally within a short time of enumeration. Results were published in 1969 in a comparison with those obtained by the sample survey later undertaken in 1960: Bamako. Recensement 1958. enquête démographique 1960-1961. Resultats définitifs. (Paris, Secrétariat d'Etat aux Affaires Etrangères, Institut National de la Statistique et des Etudes Economiques, Service de Coopération, 1969), p. 11.

During 1960 and 1961 a demographic sample survey was taken of 3 per cent of the total population, with the exception of about 30,000 inhabitants of the area of development of the Office du Niger previously surveyed and about 200,000 inhabitants of the Saharan region. Provisional results were published in Bamako in 1960 but final results only in 1968 and in Paris. The results for the Bamako area itself were compared, in a study published in 1969, with the results of the census taken in 1958. Provisional results were available at the time of the preparation of the five-year development plan for 1961-1966 and were used in the preparation by the General Statistical Service of population projections for the period 1963-1973, published in November 1963.

In 1965/66 a census was undertaken in Bamako, and its results published by the statistical service in 1966. During 1966 and 1967 local demographic surveys were undertaken in connexion with agricultural development. Demographic research on local populations remained very restricted during this period, although one study was published in 1964, and summaries of the situation were published by foreign Governments then providing substantial technical assistance. An agricultural survey covering the entire country was undertaken in 1966 and 1967 and a study prepared for the African Population Conference held in Accra in 1971 mentioned a survey undertaken in 1967 which had yielded information on total population and age structure. During this period the General Statistical Service published a series of statistical yearbooks and monthly statistical reports which contained information on the demographic situation. Throughout the period the General Statistical Service (Service de la statistique générale de la mécanographie et de la comptabilité nationale) was a component of the ministry responsible for planning (Ministry of Rural Economy and Planning until 1962, thereafter Ministry of Planning, Equipment and Industry).

Although the information derived from the local enumerations and sample surveys of the period 1957-1961 were considered to provide a broad indication of the demographic situation, the Government acknowledged in its estimates for the period 1963-1973 that these were insufficient to prepare sound estimates and projections because of the absence of information on past trends. The team responsible for the preparation of a study of possibilities for economic co-operation between the four states of the Senegal River Basin noted in 1966 that demographic information for the country was derived from varied and sometimes secondary sources. The report of the Mission sent by the United Nations Economic Commission for Africa to study problems and prospects of rural development in the country, published in 1966, noted that it was too difficult to formulate integrated plans containing a realistic appraisal of the situation and to assess the human and physical potential of the country because of the limited amount of reliable statistical data. Reinforcement of existing statistical services was recommended.

General policy with respect to the demographic situation and trends

The Keita Government made no explicit statement of its population policy, and did not reply to the First United Nations Population Inquiry, on problems resulting from the interaction of economic development and population changes, transmitted to it in 1963. However, it was aware of the principal aspects of the contribution which demographic trends were making to various problems. It considered that the underlying cause of these and other developmental problems was the societal structure inherited from both traditional and colonial periods. Its policy in general was to bring about a restructuring of the economy and the reorganization of society. This would make possible the resolution of such problems as low productivity, underemployment of human and natural resources, and low levels of living. It considered that the natural resource potential was adequate for the support of a much larger population, and viewed the assumed rise in rate of natural increase to be entirely acceptable, accordingly requiring no intervention. The problem most relevant to demographic trends was that of high rates of morbidity and mortality, and the Government gave high priority, within available resources, to the restructuring of health services and improvement in nutritional status and water supply. The qualitative objective of improved basic living standards coincided with the quantitative objective of a rising rate of natural increase. Fertility was considered to require attention only in respect to its qualitative aspects, and these were considered best dealt with within the programme of health improvement, with priority to maternal and child health services. Trends in spatial distribution of population were considered in general acceptable, immigration was negligible, and emigration, although still substantial, was considered an inheritance from the previous period and evidence of an undesirable societal structure and solved only in the context of the societal changes which were the objective of development planning.

Size and growth of the population

Information available to the Government

In his study of the evolution of the colonial economy between 1928 and 1959, Samir Amin, after having adjusted administrative census results for territorial boundary changes, stated that between 1928 and 1939 the total population had increased from 3.0 million to 3.48 million. The rate prior to 1914 was thought to have been about 1.0, which then increased to 1.4 about 1928, thereafter to stabilize at that level until 1939. During the period 1940-1945 no further growth occurred because of labour mobilization and increased mortality. From 1945 to 1959, the total population had increased from 3.48 million to 4.2 million at an annual rate of 1.4 per cent. The results of the administrative enumerations were considered to be underestimated. A study of national accounts

of the Federation of Mali for 1959, published in February 1960, and utilizing the results obtained by the demographic sample survey of 1957/58, stated that the latest estimate of total population, for January 1959, was 4.3 million. The rate of natural increase was considered to be over 2 per cent in numerous regions (that is, of both the present day Senegal as well as Mali), while an estimated overall rate of increase of 1.5 per cent, and possibly even 2.0 per cent, was considered to be quite reasonable. It noted that the proportion of the total population aged under 15 in the urban areas included in the 1957-1958 demographic sample survey of the area being developed by the Office du Niger was 36.6 per cent in urban areas and 36.0 per cent in rural areas. It also acknowledged that the results of the administrative enumerations were probably underestimated. A review of the economic situation, published by the French Government in October 1960, reported that the annual rate of natural increase for Mali itself was estimated at 1.8 per cent. The total population was considered to have increased from 3.16 millions in 1948 to 4.3 millions at the end of 1958, which was then the latest available estimate.

The results of the demographic sample survey of 3 per cent of the population undertaken in 1960-1961 indicated when published in final adjusted form in 1969 a total resident population of 3,484,000, a contemporary average annual rate of natural increase of 2.5 per cent, and a net reproduction rate of 1.95. Although provisional results were available to the Government at the time, it appears that the General Statistical Service, in its preparation of estimates and projections published in 1963, did not utilize the survey's total population, and adopted a substantially different set of estimates of rates of mortality, fertility and natural increase. This study used three hypotheses, comprising differing views of possible changes in mortality and fertility during the period and on the basis of a total derived from the 1960-1961 demographic sample survey results. According to these, the total population in 1963 was estimated to be between 4,356,000 and 4,394,000. According to a first hypothesis, fertility would remain constant and mortality would experience a moderate decline, which would begin to accelerate after 1967. Rates of natural increase would decline from 2.1 per cent in 1963 to 1.8 per cent in 1967, and then return to 2.1 per cent in 1973, when the total population would be 5,377,000. According to a second hypothesis initial levels of mortality were considered to be higher, on the assumption that they had been underestimated in the 1960-1961 demographic sample survey, but it was considered that they would decline more rapidly. A slight decline in fertility, affecting the youngest women, was also hypothesized. Rates of natural increase would remain at 1.2 to 1.3 per cent until 1969, after which an increase to 1.5 in 1973 would occur, at which time the total population would be 4,900,000. According to a third hypothesis the higher initial levels of mortality but more rapid decline used for the second hypothesis were retained, but it was concluded that fertility was in fact lower than the demographic sample survey had suggested. Accordingly, rates of natural increase would rise from 0.9 in 1963 to 1.4 in 1973, when the total population would be 4,794,000.

It appears that during the period 1960-1963, when the successive development plans were being prepared, the apparent rate of natural increase of 2.1 which had resulted from the provisional results of the demographic sample survey were adopted for planning purposes. Samir Amin, who had been involved in plan preparation, and notably in the preparation of a set of national accounts, noted that the first results of the sample survey had indicated a rate of natural increase which were already above 2.0 per cent. The second and third hypotheses adopted by the General Statistical Service in 1963 suggested that fertility was considered to be lower, and mortality higher, than the sample survey had shown, and consequently that the current rate of natural increase was only between 0.9 and 1.2 per cent, with the former hypothesis being considered the most probable.

The report of a United Nations Economic Commission for Africa (ECA) mission concerned with the study of problems and prospects for rural development, published in February 1965, reported demographic information contained in a government document on national health planning dated 1965. This in turn referred to a total population in 1964 of 4,405,000 and a rate of natural increase of 1.6 per cent.

A summary of estimates for 1960 and projections to 1985 for Francophone countries of Africa published by the French Government in December 1963 which accepted a total population of 3,680,000 for 1960, and an average annual rate of natural increase for the period 1960-1985 of 2.4 per cent. The average annual rate of increase of the male population aged 15 to 59 years was projected to be 2.3 per cent, and that of the total population aged 6 to 14 to be 2.9 per cent.

A report on proposals concerning co-operation for economic development among the four states of the Senegal Basin prepared between June and September 1966 indicated a rate of natural increase of between 2 and 2.5 per cent, which was considered to be applicable to all four countries (Guinea, Mali, Mauritania and Senegal). The report noted that information was derived from the Government's Statistical Yearbook for 1965, from the Economic Report for 1964, and from the study prepared by Samir Amin. The need to use current estimates with extreme caution was urged. It was considered that a rise in rates of natural increase were likely with decline in infant mortality and longer life expectancy, and associated expansion of the fertile period for women. The ECA mission report noted a rate of natural increase of 2.4 per cent and a 1964 population estimated at 4,405,000, which was very close to that projected by the General Statistical Service on the basis of the suppositions of its second hypothesis (4,408,000), the report prepared for the Inter-State Committee for the Development of the Basin of the River Senegal quoted a total for the same year of 4,485,000, which was that projected by the General Statistical Service on the basis of its first hypothesis. Estimates for 1967 of 4,741,000 and for 1968 of 4,832,000 were reported in a variety of sources, and there were also those of the first hypothesis projections. This suggests that the Government during these years concluded that fertility had remained unchanged since the 1960-1961

demographic sample survey (or had since risen from levels lower than obtained from the survey), and that mortality had declined (either moderately from the levels of the survey, or more rapidly from the higher levels believed to have existed at the time of the survey, but underestimated by it).

In part because of the strained relationships between the Government of President Keita and that of France, there appeared during the period very few demographic studies which could be used to supplement the official surveys. In 1959 a study of a subregional urban centre, San, had included estimates of the age structure of its population. In 1961 a study of the village of Tenentou, based largely on field visits in 1955, was published and contained information on the demographic characteristics of its population. In 1966 a French demographer published a study of an endogamous population isolate based on a sample of 1,724 persons.

Government perception of size and growth in relation to development objectives

The perception of the natural resource potential of the country adopted by the Government was that it could support a much larger population than existed but that to do so, certain adjustments in the spatial distribution of population and in technology and economic organization were necessary. This view was shared by foreign specialists. Thus the French Government's review of the economy published in October 1960 noted that the Office du Niger, in its development of irrigated agriculture in the internal data of the River Niger was far from having exhausted the potential of that area. In general, land resources could support a larger population if population distribution were to be improved. The French agronomist René Dumont also considered that land resources were very substantial. The United Nations Mission of 1966 responsible for the study of problems and prospects in rural development noted that land resources of the country were rich and abundant, but not appropriately utilized.

The most critical aspect of the effective utilization of land resources in the view of the Government was production of sufficient food supplies. In his analysis of the colonial economy during the period 1928-1959 Samir Amin pointed out that production of millet and sorghum had increased by 46 per cent, and that of rice by 102 per cent during the period. Part of the latter increase had resulted from improvement in yields resulting from technical improvements in irrigation, but the increase in dry-land rice and in the other cereals had resulted not from improvement in yields but from expansion of the area cultivated. The primary sector as a whole had increased at an annual average rate of 2.0 per cent, reflecting the addition to the basic subsistence and local commercial production of a new commercial sector, engaged in the production for export of ground-nuts and cotton, livestock and dried fish. A review of the economic situation published in October 1960 by the French Government noted that agricultural production considerably exceeded

internal demand, and that substantial exports, mainly to Mauritania and Senegal, occurred. In 1967 President Keita noted in a French journal that agricultural production for the internal and export markets had declined since 1964, in part because of unfavourable climatic conditions, but also because subsistence consumption had considerably increased. The shortages which became apparent reflected, therefore, an improvement in the living conditions of the rural population. The President explained that the country had been made an exporter of cereals during the period of French administration to the detriment of the nutritional status of the population, some of whom had been reduced to consumption of collected uncultivated foodstuffs.

The United Nations mission of 1966 concluded that the increase in agricultural production had been in general insufficient in the context of the rate of natural increase of the population of 2.4 per cent. However, the level of living of the rural population was satisfactory because of the high proportion of subsistence production. Seasonal scarcities and shortages in urban areas resulted, as did the generally low level of productivity of the sector, from the absence of real technological and organizational improvement.

In his study, Samir Amin reported that the view which the Keita Government held of the over-all structure and performance of the economy was that during the period of French administration a colonial economy had been superimposed, with extremely limited capital investment, over the traditional economy. The growth of the economy had largely reflected increasing export of primary products in their untransformed state and the expansion of the tertiary sector. No significant change in technology or organization had occurred. The virtual stagnation of the primary sector and the non-existence of a secondary sector were considered to result entirely from the nature of the economic structure established by the French, and were not in any way associated with the rate of natural increase, or the size or structure of the total population.

In the context of very limited technological modernization outside the area of development of the Office du Niger, manual labour was the principal human resource. A study of the social structure of the population published in 1971 described the traditional society as based upon a form of slavery, reflecting a virtually feudal system of relationships between social classes. In such conditions, any increase in the labour force was perceived by the elite to be beneficial. To the colonial administration, and to the indigenous elite also, the peasantry constituted a labour reserve. However, in view of the small size of the modern sector, both the French administration and the Keita Government considered that the total size of the labour force was sufficient, but that its technical quality was far from satisfactory. As reported by government and foreign official sources, the Government's view was that the country was underpopulated in the sense of its total labour force being quite insufficient to adequately exploit the known natural resources. For this reason, mechanization of agriculture was considered necessary, although constrained by the low technical knowledge of the labour force. It was acknowledged,

however, that average density in relation to the total cultivated area was already high at existing levels of technology, but this was the result of an inadequate spatial distribution of the population. Because of recognition of the technical level of the labour force as being the immediate problem, great emphasis was placed upon the need for education, and accordingly, upon the role which could be played by the youth in the modernization of the economy. Consequently, it is probable that the youthful characteristic of the demographic structure of the population was considered an acceptable feature.

The Keita Government considered that the rate of natural increase was rising as a result of assumed decline in mortality consequent upon improvement in health conditions. Although adopting a rate of 2.1 per cent for planning purposes, it appeared probable that the General Statistical Service considered that a lower rate existed. The Government itself made no explicit statement of its perception of trends in natural increase. The United Nations mission which examined rural development problems in 1966 noted that the high rate of population growth was hindering the effective utilization of natural resources but the report on economic development of the four countries of the Senegal River Basin prepared in the same year stated that attempts should be made to stem the loss of human resources by emigration from these four countries.

Policy with regard to size and growth

As the Keita Government perceived, almost all of the problems associated with the relationship between population, resources and economic structure to be caused by the nature of the socio-economic system inherited from the colonial period, the emphasis of its policy was the economic restructuring of the country. Accordingly, the succession of plans prepared between 1959 and 1963, culminating in the five-year plan for the period 1961-1965, were designed to resolve these problems by means of achieving economic decolonization, instituting new economic structures within the framework of socialist planning, increasing food production, establishing manufacturing industries, expanding research into mineral resources and directing the economy by means of state organizations. An annual average increase in GDP of 8 per cent was identified as target for the five-year plan. In 1963 the United Nations assisted the Government in launching its programme of increasing rice production in the Ségou and Mopti areas of the internal delta of the River Niger. It was reported that during peak periods a shortage of labour for this project constituted a serious constraint upon its successful implementation. Considerable attention was given to establishing an appropriate educational system, and to expansion of technical and managerial training, for which assistance was requested from the International Labour Organisation and the United States Agency for International Development. The reports of the United Nations mission of 1966, and that prepared for the four Senegal River Basin Governments in the same year also emphasized the need for technological and organizational change, particularly in the rural sector. This emphasis implied substantial concern with the problems of youth, and with the most effective means of utilization of the advantages of having a youthful

population structure and this was indicated by President Keita in his speeches. As a short-term means of utilizing the available and under-employed workers, a programme of "human investments" projects, based upon the Chinese model of labour-intensive improvement of socio-economic infrastructure and resource utilization, was proposed in the five-year plan for 1961-1965.

Morbidity and mortality

Information available to the Government

Surveys of the nutritional status of the population were undertaken prior to independence as part of a programme concerning all of the constituent territories of French West Africa. In Mali the socio-economic mission to the Sudan undertook during the period 1956-1958 a nutritional survey of the rural populations in the internal delta of the River Niger and the area being developed by the Office du Niger. This indicated that nutritional status was generally satisfactory with respect to both quantity and variety, although some deficiencies in vitamins A and C were noted. A French Government review of the economic situation in the country published in October 1960 noted that nutritional levels were satisfactory, owing to the widespread availability of livestock, fish and cereals. Samir Amin reported that the Keita Government believed that the general health status of the population had improved during the period of colonial administration, and was continuing to improve.

The report of the United Nations mission responsible for the study of problems and prospects of rural development in Mali, Niger and Upper Volta, which drew substantially upon an FAO study of the situation in 1962, noted that although satisfactory quantitatively, the nutritional status of the population in general was deficient in certain qualitative respects. In rural areas, although food production was in over-all terms satisfactory, there were problems of loss in storage, and in meeting the needs immediately prior to each year's harvest. In addition, all of the population of each region had certain nutritional problems because of beliefs and customs. In particular, children suffered from a premature and abrupt shift to an adult diet. Milk was not appreciated, except by the nomadic populations, and in general those populations dependant upon livestock, had better diets. Urbanization had resulted in a poorer diet.

In the report prepared in 1966 for the four Senegal River Basin Governments, a full description of prevalent diseases was included. The report noted first of all that the nutritional and health problems of the four countries had long been known. Malaria was the principal disease, but the Government had only achieved pre-eradication stages, involving establishment of an expanded infrastructure. Leprosy, trypanosomiasis and syphilis were endemic. Bilharziosis and onchocerciasis were widespread in areas of stagnant and running water, respectively, and it was feared that their prevalence would become more widespread with construction of dams. Trachoma and tuberculosis were serious problems, and many

other endemic diseases were associated with inadequate hygiene and provision of safe drinking water. The risk of cholera and yellow fever epidemics remained and measles was a serious problem among children. Nutritional problems included the abruptness of weaning, seasonal vitamin insufficiency, general undernutrition prior to harvesting corresponding to a period of maximum demand for labour. However, the report noted that health statistics were far from adequate to present a clear impression of the situation.

Information on mortality levels remained uncertain and fragmentary during the period. The first study of national accounts, prepared with respect to the Federation of Mali and published in February 1960, noted that the previous administrative censuses had been inadequate to indicate levels of mortality. For both Mali and Senegal crude death rates were thought to vary between 20 and 30 per thousand. A French Government review of the economic situation in the country published in October 1960 stated that crude death rates for various regions within Mali varied between 24 and 41 per thousand. The demographic sample survey of 3 per cent of the total population other than that in the area being developed by the Office du Niger, and that in the desert region of the north, indicated an adjusted average crude death rate of 30 per thousand, an infant mortality rate of 120 per thousand and an average life expectancy at birth of 35 years. Although the final results were published only in 1968, it would appear that provisional results were taken into account by the General Statistical Service in its preparation of population estimates and projections published in November 1963. It was then considered that the sample demographic survey of 1960-1961 had underestimated levels of mortality. It was expected that a decline in mortality would occur, gradually until 1967, and thereafter more rapidly, affecting particularly the population under the age of 10 years. Thus, in place of an estimated crude death rate in 1963 of 32.2 per thousand, the higher level of between 39.5 and 40.8 was adopted.

In a socio-demographic study of the capital which was published in 1966, crude death rates of 16 per thousand for the metropolitan population were reported, although apparently on the basis of vital registration information which was most probably incomplete. Nevertheless, the improved health measures which existed there were reported to have brought about a substantial decline in levels of mortality, particularly among infants. The report prepared in 1966 for the Governments of the four Senegal River Basin countries noted that the crude death rate was between 27 and 37 per thousand, and that the rate of infant mortality varied from about 100 per thousand live births in urban areas to between 100 and 200 in rural areas. However, the report stressed the inadequacy of statistical information, and noted that it was probable that a decline in infant mortality rates and extension of the average life expectancy at birth would continue. In 1966 a study of a local endogamous population which provided information on mortality was published.

Government perception of levels of morbidity and mortality

Although no explicit statements are known to have been made, the concern to bring about a substantial and rapid improvement in health status, particularly for the rural population expressed by the Government in various documents, including the five-year development plan for 1961-1965, is evidence enough that it considered current levels of morbidity and mortality to be entirely unacceptable.

Policy with regard to morbidity and mortality

In the years immediately preceding independence, expenditure within the series of four-year plans had brought about a substantial improvement in health services, although from a very undeveloped base, but there remained a strong concentration of personnel and infrastructure in Bamako. In 1955 there were only 18 European doctors and 50 African doctors and pharmacists. A French Government review of the general situation published in October 1960 stated that the level of health service provision was satisfactory when compared to the average for African countries. The number of doctors had increased to 71, and the number of hospital beds had reached 2,857 in 1959. However, in spite of the improvement, it was pointed out in a study of rural health services published in 1960 that expenditure on health infrastructure during the period 1947-1959 amounted to only 4 per cent of the total.

Immediately after establishment of the independent Republic of Mali the Congress of the Union soudannaise held in Bamako in September 1960 agreed upon over-all directives to be followed by the technical planning team, and these included the definition of a social policy, including a health policy, which would permit the creation of the acceptable basic living conditions for the least privileged of the population. However, the four-year plan for the period 1961-1964, which gave particular emphasis to investments considered likely to be immediately productive allocated less than 2 per cent of its resources to the health sector. The final version of these early plans, the five-year plan for the period 1961-1965, included programmes of curative and preventive services and health education, with emphasis upon training and research into indigenous pharmacy. Extension of infrastructure from urban centres to meet the needs of the rural population, eradication of major endemic diseases, maternal and child health services, public hygiene, and sanitation in both urban and rural areas were to receive attention. However, the proportion of the development budget allocated to the sector remained slightly under 2 per cent.

In 1965 UNICEF reported that during the first five years of independence the Government had achieved considerable success in developing integrated health and welfare services. New health centres were established, the previously independent mobile disease control service had been gradually integrated into the public health structure, and decentralization of administration to regional level had been achieved. Training of paramedical personnel had begun in Bamako. During 1965 and 1966 the Government, with the assistance of WHO and USAID prepared a

10-year health plan, to be integrated within the next over-all development plan. Preliminary aims were reported in the proceedings of a meeting held at Dakar in 1965. The order of priorities was improvement of training, increased emphasis on preventive medicine and campaigns against transmissable diseases. Better integration of fixed and mobile services and greater utilization of existing infrastructure rather than new investment were emphasized because current budgets were scarcely sufficient to cover the operation of existing facilities, and decentralization of health services to regional and local levels. A first stage of the Health Plan, to occupy the period January 1965 to June 1966 would be devoted to determining future needs in personnel, preparing training programmes, improving statistical services, undertaking a national programme of immunizations (to include at least smallpox, measles and tuberculosis) and completion of the infrastructural construction begun under the five-year plan. From July 1966 to June 1971 training programmes, national immunization campaigns, and regional decentralization would be undertaken. During the third phase, to last from July 1971 to June 1976 a fully integrated and decentralized system of health facilities would be established. A permanent programme of immunization and mass campaigns against endemic diseases, and systematic health education to ensure wide participation in health and sanitation programmes would be undertaken. The doctor/population ratio was expected to rise from 1:77,000 in 1964 to 1:40,000 in 1975. However, an American study of the health situation published in 1966 noted that progress was most likely to be very slow because of the scarcity of financial resources, the shortage of trained personnel and the very inadequate situation from which the plans were intended to develop. The National Health Plan was published in 1966.

In the report prepared for the Governments of the four Senegal River Basin States in 1966 it was noted that the mobile health services responsible for preventive health programmes had been limited in their effectiveness by shortage of personnel (prior to independence, the doctors had been French military personnel); the unpopularity of the need for assembly of the local population for vaccinations; the preference of the rural population for curative services and limited understanding of the need for preventive and public health measures, and insufficient co-ordination between the preventive and the curative services. Thus the mobile services had tended to concentrate upon their original objective of reducing sleeping sickness, leprosy, yellow fever and smallpox, and had not given sufficient attention to campaigns against malaria, tuberculosis and measles. Thus, out of the health budget, itself very small, only 9 per cent was allocated to the mobile medical services. In 1965, out of the 93 doctors in the country, 58 were working in Bamako, as were 400 of the 1,037 nurses. The report noted the new approach to health services being prepared in Mali, but noted also the scarcity of resources which would severely constrain its implementation.

The United Nations mission which examined rural development problems in 1966 gave some consideration to health problems as they related to agricultural productivity. The mission stressed the importance of a fully integrated health programme, with supportive action in the fields

of nutrition, housing, education and general improvement in socio-economic levels of living. The ten-year Health Plan already prepared was considered to be a suitable instrument for attaining such a goal. The proportion of the regular budget allocated to health was reported as 10.5 per cent, a larger amount than that included in the development budget because of the Government's view that investment in new infrastructure was not feasible in view of shortages of personnel. The seriousness of this shortage of personnel was emphasized. In a review of the economic situation published in a French journal in 1967, President Keita noted that in order to combat undernutrition and malnutrition, the establishment of appropriate means of supplying urban populations had been undertaken as a matter of priority over production for export. In April 1967 UNICEF reported that a degree of integration had already been achieved within endemic disease control services and a pilot zone for environmental health had been opened at Djoliba, near to Bamako.

Fertility

Information available to the Government

At the beginning of the period under discussion demographic information on fertility was very limited. On the basis of administrative reports and a limited number of local studies, some of which concerned populations of similar ethnic groups but in adjacent territories, it was believed that the fertility was higher among the animist sedentary population than among the Islamized population. A study of the population of Timbuctu published in 1953 had shown low fertility, believed to result from a high incidence of syphilis. A study of the nomadic population published in 1960 noted that fertility was higher among the serf class than among the higher classes.

The first demographic indicators were provided by the socio-economic mission's studies of the population in the internal delta of the River Niger during the period 1957-1958. These were used as a general indication of probable national levels. Thus the first attempt to analyse national accounts for the Federation of Mali noted that the administrative enumerations and vital statistics available were inadequate for the calculation of levels of fertility. However, the socio-economic mission's findings suggested a national average of between 40 and 50 per thousand population for the crude birth rate. A French Government review of the economic situation at the time of independence indicated that the crude birth rate for the nomadic population was between 12 and 15 per thousand population, whereas that for the sedentary population was between 40 and 53 per thousand.

The first national estimates could be prepared only after analysis of the provisional results of the 3 per cent demographic sample survey conducted in 1960-1961. This indicated a crude birth rate of 55 per thousand population. Slightly adjusted figures were used by the General

Statistical Service in the preparation of the first series of demographic estimates and projections for the country, published in November 1963. In this study it was noted that almost all women aged between 14 and 19 in rural areas were married, while almost 90 per cent were married in urban areas. In areas having a high proportion of nomads, in which levels of marital mobility were high, fertility levels were lower than the national average. The crude birth rate was reported to be 53.0 per thousand population.

These values were retained during the remainder of the period under discussion. The report prepared for the Governments of the four Senegal River Basin countries in 1966 did not include estimates of fertility, but implied, in the difference between reported crude death rates and rates of natural increase, that crude birth rates might be within the range 47 to 62 per thousand population. The United Nations mission responsible for the study of problems and prospects in rural development noted in its report of 1966 a crude birth rate of 54 per thousand.

Very few studies of local populations published during the period included indicators of fertility levels. A study of the population of Bamako published in 1966 noted that the crude birth rate was 60 per thousand population. The average number of children born alive for women aged 50 and over was 4.96. A previous slightly smaller size of completed family in Bamako as compared to rural areas was reported to be already then disappearing. The proportion of monogamous marriages was higher--71 per cent--than in regional centres and rural areas. A close relationship between incidence of polygamy and age of men existed. No further information on fertility levels was forthcoming during the remainder of the period under discussion.

However, demographic sources were supplemented by anthropological and sociological information. The General Statistical Service, in its preparation of estimates and projections of demographic behaviour during the period 1963-1973 noted that several factors might hypothetically bring about a decline in levels of fertility: the higher minimum age at marriage legislated since independence; increased levels of school attendance; cultural and social changes; and more widespread use of contraceptive methods. However, it was considered that the likelihood of a significant decline resulting from any of these factors was small. A high proportion of females still married at a very young age. With economic and social development the nomadic population was likely to become more settled and consequently to adopt higher fertility levels. The level of school attendance, although rising, was unlikely to reach so high a proportion of young women that national fertility levels would be affected. However, it was hypothesized that if a slight decline in fertility, affecting women aged 14 to 24, were to occur, it would result in a crude birth rate of 45.1 in 1973 instead of 49.2, which was projected if no decline occurred.

Information on levels of education and proportion of the population in urban and salaried employment available during the period confirmed the hypothesis that only a very small proportion of the population was

at risk of change in fertility behaviour from the traditional high levels. In 1945 there were 13,000 students in primary-level schools, of which 1,500 were girls, and by 1953 these numbers had increased to 29,700 and 5,600, respectively. In 1959 the proportion of children of school age attending all types of schools was only 9.4 per cent. In 1961 the report on the five-year plan confirmed that only 10 per cent of the school-age population was attending schools, and that 98 per cent of the population was illiterate. The proportion of girls attending secondary-level schools was even smaller: in 1958 only 406, out of a total of 1,790. Proportions of the economically active population in occupational categories associated with a propensity to fertility behaviour change were similarly small. In 1953 there were only 25,000 salaried workers in the country, of which only 5 per cent were considered to be in the middle-upper social class.

Studies of traditional socio-cultural behaviour published in 1962, 1963 and 1967 confirmed the importance of high fertility with respect to the status of women. However, there were some indications of changes in the status of women. Thus a study of the impact of modern education and ideas upon girls of the Bambara population of Ségou district published in 1961 showed that a progressive and accelerating deterioration of parental and other family control which had been formerly exercised over all aspects of social life was occurring. In a study of the population of Bamako published in 1966, it was noted that, because the city had existed prior to the period of colonial occupation and had grown during that period in part as a result of the expansion of the traditional commercial system, its population, including recent in-migrants from the countryside, was able to enjoy an urban life style which was not in every respect detached from that of traditional society.

Government perception of levels and trends of fertility

Although no explicit statement of its perception is known to have been made, it appears that the Government's view was that levels of fertility were in general acceptable as far as their contribution to the level of natural increase was concerned, but not acceptable from the point of view of maternal and child health and family welfare. Thus the General Statistical Service, in its study of population estimates and projections published in 1963, noted that the levels of fertility of the nomadic population were lower than those for the sedentary population, but that they would probably rise as sedentarization occurred, the implication being that both proccesses were parts of an acceptable socio-economic process. It was stated that in general fertility would probably remain constant, since none of the factors likely to bring about its change would affect more than a small proportion of the population at risk. In the context of the perception that generally high rates of natural increase were acceptable, and of recognition that levels of morbidity and mortality were still very high, it may be presumed that the high levels of fertility were considered desirable. Nevertheless, the severe constraints still exercised by morbidity and mortality upon the achievement of desired completed size of family and spacing of births of

children was acknowledged, and substantial priority was attached to rapid improvement of this situation.

Policy with regard to fertility

Since it was the Keita Government's view that levels of fertility were generally acceptable so far as their contribution to the level of natural increase was concerned, its policy with respect to fertility was one of non-intervention. Nevertheless, it implemented a number of measures, each of which was likely, in the context of the prevailing health status and socio-cultural situation, to bring about an increased level of fertility by removing various constraints upon the achievement by women of their desired completed size of family. Thus the Government gave considerable emphasis to the improvement of the general status of women, and to reduction in levels of polygamy and in the importance of bride-wealth payments. In 1963, a new Marriage Code was enacted which supported the monogamous family and the status of women within marriage. The Code included an article which raised the minimum legal age at marriage from 15 to 18 years for women. However, it was pointed out by the General Statistical Service, in its study of estimates and projections of population published in November 1963, that the provisions of the Code were not greatly respected in urban areas and even less in rural areas. Moreover, the Code itself permits marriage at 16 years under certain circumstances. In order to offset the additional costs of bearing and rearing children in an urban environment and, in the context of the new life-style associated with employment in the modern sector, family allowances were paid to that small proportion of the population which might otherwise have found higher urban expenses to be a reason for limitation of the size of their completed family. An improvement in maternal and child health, which would have the effect of reducing existing morbidity and mortality constraints upon the achievement of desired size of completed family was given considerable priority, although limited resources were allocated. No programme of providing information, guidance or means of substituting modern methods of contraception for traditional means was introduced during this period.

Immigration

Although during the period of French administration small-scale movements of labour across the territorial frontiers had occurred, they were usually seasonal or temporary and were not of demographic significance. During the period 1960-1968 no significant movements are known to have occurred and no statement by the Government of its perception of the acceptability of this situation, or of its policy in respect to it, is known.

Emigration

Information available to the Government

After 1945 temporary emigration of young men to Ghana increased rapidly, while considerable numbers moved to Guinea and to Senegal for seasonal agricultural work. In a survey of migration undertaken during 1953-1955 it was noted that the reasons for the substantial movement which had been given in official reports had been poverty in areas of origin, poor harvests and avoidance of military recruitment. However, it was found that migrants themselves most frequently mentioned as reasons for their emigration the improved salaries obtained, particularly in Ghana, as well as avoidance of forced labour and taxation. In the report prepared in 1966 for the Governments of the four countries within the Senegal River basin, it was stated that 60 per cent of the "navétanes" employed in the ground-nut producing areas of the Sine-Saloum region of Senegal were from Mali, notably from the areas of Kita, Bafoulabé, Kayes, Nioro and Bongouni. The report noted also a longer-distance emigration to France which had begun in 1954 and had increased considerably after the break-up of the Federation of Mali in 1960. About 45 per cent of the estimated 40,000 emigrants from Mali, Senegal and Mauritania originated in the Senegal River basin region of Mali and consisted primarily of Sarakolé. During the period a number of studies were made of this movement. Most of the emigrants were concentrated in industrial regions of Paris.

Government perception of levels and trends of emigration

During the period of French administration the authorities perceived both advantages and disadvantages in the substantial emigration of young adults. On the one hand, income was derived from earnings repatriated, but on the other hand, negative effects were thought to include disintegration of the ethnic group and the family, the introduction of contagious diseases, notably venereal diseases and the possibility of reinfecting areas cleared after campaigns against sleeping sickness. In a general review of the developmental situation in the territory published in 1955 by a previous Governor, it was pointed out that the increasing numbers involved in emigration constituted a loss of labour prejudicial to the local economy. Few statements concerning the acceptability of emigration are known to have been made during the period 1960-1968, possibly because of the declining number of emigrants to Senegal and Ghana and the over-all developmental preoccupations of the Government. The United Nations Economic Commission for Africa (ECA) mission of 1966 considered that the population in rural areas was numerous enough to provide for a permanent movement of both seasonal and permanent emigrants to the coastal countries.

Policy with regard to emigration

Although concern at the loss of workers to Ghana caused the French administration to undertake a study of the question, a policy of

non-intervention was maintained, and this appears to have been continued by the Keita Government although statements of its emigration policy are known to have been made. The report prepared for the Governments of the four Senegal River basin countries in 1966 called for co-operation between the States concerned with respect to population movements between them, and the adoption by them of a concerted policy with respect to movements to destinations outside Africa, notably by France. A bilateral convention concerning movement of persons was concluded with France in 1964.

Spatial distribution

Information available to the Government

A monograph on the metropolitan centre, Bamako, published in 1966, attempted an evaluation of available information on the growth of the population there. Although information derived from varied sources was considered to have been often contradictory, it appeared that until 1945 the rate of population growth had been slow, but that thereafter a substantial acceleration occurred. Thus from a total of about 40,000 in 1945, Bamako's population had increased to about 100,000 in 1958, to about 130,000 in 1960, and was estimated at about 143,000 in 1963. These totals included peripheral settlements and villages as well as the population of the built-up area itself.

In 1969 the final results of the 1958 census of Bamako and of the demographic sample survey of 1960-1961 for that centre indicated an increase in total population from 76,200 to 129,300 between these two years.

The populations of regional and subregional centres at the end of the period of French administration were small both in absolute terms and in relation to that of Bamako. In 1954 there were four centres with populations of between 10,000 and 20,000 (Kayes, 20,000; Ségou, 17,000-18,000; Sikasso, 14,000-15,000; Mopti, 12,000-13,000), and four centres with populations between 5,000 and 10,000. At that time the population of Bamako was estimated at between 80,000 and 100,000. In the early 1960s these centres had reported populations of 32,000 (Ségou and Kayes), 17,000 (Sikasso), 15,000 (Mopti), 12,000 (Gao) and 10,000 (San).

Estimates of the proportion of the total population resident in urban areas varied according to definition of urban centres and also as a result of differences in accuracy of enumerations of both urban and total populations. In 1955 a former Governor noted that in 1950 the urban population already exceeded 250,000 persons, slightly less than 7 per cent of the estimated total population. In 1960, as part of the study of national accounts for 1956, the statistical service of the Federation of Mali estimated that in that year the total population in urban centres with populations of 5,000 and over was 195,000, slightly less than 6 per cent of the estimated total population. For the purpose of estimating household expenditure, it was calculated that there were 50,000 in an urban environment out of a total of 853,000 families, a similar proportion. A French

Government review of the general situation published in October 1960 also noted an urban population of about 250,000, about 6 per cent of the total. In 1965 Samir Amin, who had been responsible for certain of the technical studies needed for the preparation of the first development plans, noted that the proportion urban had increased from 2.9 per cent in 1945 (100,000) to 6.0 per cent in 1959 (250,000).

While the rate of increase in urban population between 1928 and 1945 had been 4.9 per cent, that between 1945 and 1959 had been 6.8 per cent with an acceleration toward the end of that period to an annual average of about 8 per cent. The urban proportion of 6 per cent for 1962 was noted in the report prepared for the Governments of the four Senegal River basin countries in 1966.

The over-all pattern of distribution of the rural population over national territory was adequately known from administrative enumerations and from the results of the 1960-1961 demographic sample survey which, however, excluded the nomadic population and that in the area of development of the Office du Niger which had been covered in the 1957-1959 surveys of the socio-economic mission to the Sudan. The principal characteristics were noted as the extremely low density of the Saharan region, occupied in fact almost exclusively by nomadic populations; the relatively low densities of the Sahelian region, with, however, local areas of much higher density, notably where natural irrigation occurred; and the close interrelationship within the Sahelian region of sedentary, semi-nomadic and nomadic populations. Thus the local densities of 12 per square kilometre in the Mopti area, of 20-50 per square kilometre in the Gao riverine area and of about 100 per square kilometre in the Dogon area, were noted.

During the period a number of studies of subregions of single villages and of the nomadic population were published and these supplemented the various anthropological and ethnological publications of the French administration.

In his examination of the development of the country's economy during the period 1928-1959 Samir Amin noted that the increase in primary production had resulted in part from the cultivation of new irrigated lands as a result partly of the developmental projects of the Office du Niger, but largely as a result of the expansion of cultivated land within the subsistence and semi-subsistence economy which accompanied the growth in rural population. Traditional technology had been maintained, involving shifting cultivation with long fallows, except in certain naturally irrigated areas along the Niger and some of its tributaries, and in relatively high density areas such as those occupied by the Dogon, in which sophisticated terracing and water control had been established. There was an established tradition of mobility even of sedentary populations in order that the best use could be made of natural resources at existing levels of technology and forms of social organization.

Government perception of spatial distribution

There is no indication that the Government perceived the pattern trends of spatial distribution and movements of the population to be anything but acceptable. The size and growth of the metropolitan centre had not yet presented serious problems, and the nation-building period after independence required an expansion in the functions of the capital. Growth of the remainder of the urban system was most probably viewed as a desirable part of modernization. The pattern of distribution of the rural population in relation to the environment was in general well adjusted, although more intensive occupation of certain irrigable lands was considered desirable.

Given that the overwhelming majority of the population was resident in rural areas and the greater part of the economy was based upon primary production, the Government's policies with respect to spatial distribution of the population were concerned primarily with the pattern of distribution within rural areas themselves. Little emphasis was given to modification of the pattern of urban centres, which was derived largely from a pre-colonial period, and had been modified by the period of colonial occupation only to the extent that certain of the more important of the pre-existing centres had been given preferential investment as territorial and regional administrative centres. In fact, during the period of French administration, the greater part of investment in urban social and economic infrastructure had been allocated to Bamako.

In its five-year development plan for 1961-1965 the Keita Government attempted to emphasize rural as opposed to urban development, and in its substantial programme of industrial expansion located plants in almost all of the second- and third-order regional and subregional centres. However, a substantial investment in new industries was still concentrated in Bamako, where also there was a high degree of concentration on social and economic infrastructure which increased the attractiveness of the metropolitan centre in relation to other urban centres and to rural areas. The Government is not known to have adopted a policy designed to limit migration into the metropolitan centre or into other urban centres and may be presumed to have considered expansion of the still very small urban system to be entirely consonant with the over-all process of development. However, its emphasis upon rural transformation may have been considered an adequate means of limiting potential rural to urban movement to a minimum.

Near Bamako a model village, Dioliba, was established with assistance from USAID, partly as a means of settling some of the metropolitan unemployed but principally as a pilot project in community development.

The Keita Government from the outset of the period of independence adopted a policy of emphasizing rural development within the context of a restructuring of production and distribution on socialist lines. The series of plans culminating in the five-year plan for 1961-1965 reflected this emphasis. The goal was to secure an over-all improvement in the basic

living standards of the population as well as to obtain a sufficiently increased productivity to make possible exports.

The assistance of the United Nations Economic Commission for Africa and French technical assistance agencies was obtained in comprehensive studies of rural development and the report prepared for the Governments of the four Senegal River basin countries in 1966 also stressed comprehensive rural development as the central component of the desirable development strategy. In fact the objectives of the Keita Government were largely concerned with the construction of a rural sector on socialist lines, and the success and failure of its over-all development programme was closely connected with that of its rural policy.

II. THE PERIOD 1968-1976

The political and economic situation

In November 1968 military officers replaced the preceding Government, and established a new Government in the form of a 14-member Military Committee of National Liberation, of which Lieutenant Moussa Traoré was President. This Government remained in power throughout the period under discussion.

During the period 1968-1976 the general economic situation was overwhelmingly affected by the Sahelian drought, which had begun in 1967 and which assumed very serious proportions in 1972 and 1973. However, from 1974 to 1976 improved rainfall and implementation of the five-year development plan for the period 1974-1978 resulted in a substantial economic recovery. Nevertheless, global economic conditions, including the impact of higher costs of fuel and fertilizer and general inflation, have seriously hampered progress. The country has been designated by the United Nations as among the least developed of developing countries, and as requiring special assistance.

Development planning

In July 1969 a National Conference of Senior Officials was held with the aim of making a critical analysis of the developmental progress achieved by the previous Government. Subsequently, the Government decided to formulate a programme designed to achieve financial and economic recovery. This was published in June 1970 as the three-year programme of economic and financial recovery for the period 1970-1972. In 1973 UNDP prepared a programme of assistance to the Government which took into account the principal objectives of the three-year programme--the revival of the economy, the re-establishment of an acceptable trade balance and a balanced national budget. The Government was granted supplementary funds under special measures in favour of the 25 least developed among the developing countries as well as under the arrangements for providing special aid to the Sudano-Sahelian countries affected by drought. At that time preparation of the succeeding development plan was still being prepared and this process continued into early 1974, when a five-year economic and social development plan for the period 1974-1978 was published. Its principal objectives were the satisfaction of the basic needs of the population, particularly in respect to cereals and water; the reconstitution of the livestock herds of the country; increased value-added to national products before export; and reduction of the problems caused by the landlocked position of the country by means of substantial improvement in the transportation and communications networks. Qualitative objectives were the establishment of sound national revenues and the building of an independent economy. The strategy for achieving these objectives was one

of maximizing the value-added to national product, and its more appropriate distribution within a changed societal structure obtained by means of the appropriate utilization of natural resources and by the more effective integration of regional economies within the national economy. In addition the plan sought to satisfy the population's need for a more balanced diet, improved health and education and to prepare institutions and adequate methods of resolving long-term problems, particularly with respect to the development of intensive irrigated agriculture and livestock production. The strategy was considered one of transition to an independent economy by means of action programmes designed to increase rural production, the establishment of import-substitution industries, increased productivity and a more effective control of the increased internal demand for imported goods for domestic consumption. Basic programmes and structural changes designed to make possible a subsequent self-sustained economic expansion were to be implemented.

During the period of the Sahelian drought the Government received substantial external assistance in immediate relief funds and material. Subsequently, and as part of the implementation of the five-year economic and social development plan for the period 1974-1978, it received an increased assistance from a wider range of sources than previously, including notably substantial funds from the development assistance institutions of oil-exporting countries in North Africa and Western Asia. The Government has also been assisted by long-term programmes of rehabilitation and development for the entire Sahelian region affected by drought during 1968-1973.

As part of its attempts to improve development planning the Government implemented institutional changes so that the former separate planning ministry was included within the Presidency as the National Planning and Statistics Directorate, but in September 1975 further reorganization resulted in the re-establishment of a separate Ministry of Planning.

Information on the general demographic situation and trends

The three-year programme of economic and financial recovery for the period 1970 to 1972 called for an expanded programme of statistical information collection and analysis.

The United Nations Population Programme Officer for West Africa was informed by the Government during a visit in June 1971 that it recognized the fact that numerous aspects of development planning could not be undertaken without adequate information concerning the demographic situation. However, although the Statistical Service prepared estimates of overall trends, these were based upon the results of the 1960-1961 demographic sample survey, the results of which were published only in 1969. The study of population estimates and projections originally prepared by the Statistical Service in 1963 was republished in November 1969 without

revision. During 1968 and 1969 an agricultural survey was undertaken which provided considerable information on the rural population and gave some information to the Statistical Service for the purpose of evaluating trends since 1960-1961. The need for a comprehensive national population census was recognized and assistance from the United Nations was requested for this purpose. In 1973 UNFPA began the provision of support for the preparatory phases of such a census.

In its general statement at the United Nations World Population Conference at Bucharest in August 1974, the Government again noted the importance for effective development planning which it attached to the availability of adequate information on the demographic situation. It was anticipated that the census then in preparation would greatly improve the availability of such information and would permit the reorganization and improvement of the vital registration system. During the period May 1973 to May 1974 an agro-socio-economic survey was undertaken in the operation riz zone of Mopti, and a similar survey was undertaken for the region of Ségou during the period March 1974-May 1975. In 1975 the Statistical Abstract for 1972 was published and contained demographic estimates prepared by the Statistical Service. In December 1976 the first comprehensive population census was undertaken and its provisional results were published in February 1977 by the Ministry of Defence, Interior and Security, which had been responsible for implementation of the census programme.

It was subsequently reported by visiting specialists of the African Census Programme that the information derived from the census would be insufficient to make a detailed analysis of mortality, fertility and internal migration and that consideration was being given to the undertaking of a demographic survey based on the census findings. In November 1976 the Government had also requested assistance for the undertaking of a household survey.

Through the period under discussion, institutional responsibility for the collection and analysis of demographic information had remained with the Statistical Service (Service de la Statistique Générale de la Compatabilité Nationale et de la Mécanographie), an agency within the Ministry of Planning.

General policy with regard to the demographic situation and trends

The principal concerns of the Government during the period 1968-1972 were the establishment of financial and economic recovery, the over-all objectives of the three-year programme for 1970-1972. Although the programme did not include a specific and separate reference to population policy, the demographic situation was taken fully into account in analysing the experience of the first five-year plan, and in the presentation of main objectives for the period 1970-1972. The programme's objectives included in its health, social welfare and rural development sections

measures designed in part to modify demographic processes. In October 1971 the Government prepared a national report for submission to the African Population Conference held in Accra in December 1971, and this contained not only a summary of information then available with respect to the demographic situation, but indicated the Government's position with respect to each of these aspects. In 1971 an official visit was made to the country by the United Nations Population Programme Officer for West Africa, whose report indicated that the Government had an explicit position with respect to demographic trends. In 1971 the Government decided, in co-operation with the Canadian International Development Research Centre, to establish a two-year pilot project whose over-all objective would be to assemble the data necessary for the formulation of a policy with respect to fertility and to related aspects of morbidity and mortality. In 1973 this programme was extended and in the same year UNFPA began a programme of assistance having the purpose of permitting the undertaking of a first national population census.

Although the Government did not reply to the United Nations Second Population Inquiry, transmitted to it in 1972, it attended the regional consultations preparatory to the United Nations World Population Conference, held for the African region at Addis Ababa in May 1974. It also attended the Conference itself, held at Bucharest in August 1974, where its representatives made a comprehensive statement to the plenary session, as well as participating actively in the Working Group on the World Population Plan of Action responsible for the final drafting of that instrument. In its general statement the Government pointed out that population problems were relevant to all human activities. Their solution was a difficult and delicate matter which did not lend itself to simple actions or to statistical analysis alone. All Governments were working toward an improvement in the well-being of their populations; thus the population must be considered the most important objective of developmental activities. Thus population characteristics were basic for development planning. The Government had over a long period perceived the interdependence between demographic phenomena and the complex problem of development, but had considered that it was difficult to act upon the demographic factor alone. Development had always been regarded as complex process, within which the demographic element was an integral part. Accordingly the solution to the problems associated with population which faced the country was an integrated, sustained and resolute developmental effort.

The representative stressed the Government's strongly held view that only national personnel were able adequately to understand the situation in their own countries. Consequently it was their responsibility to define priorities and choose a population policy appropriate to the socio-economic, cultural and religious context. The Government's position was explained with respect to the need for information on the demographic situation; with respect to the relationships between the overall growth and structure of the population and development; in relation to morbidity, mortality, maternal and child health and family planning, and in relation to the spatial distribution of the population.

The Government was not represented at the Regional Post World Population Conference Consultation held for the African region at Lusaka in April 1975. However, a legal specialist attended a Regional Seminar on Law and Population Problems held at the University of Benin, Lomé, Togo, in March 1975 under the auspices of the United Nations Fund for Population Activities (UNFPA) and the International Consultative Committee on Law and Population. In May 1975 a National Seminar on Population and Development Planning was held at Bamako under the auspices of ECA. Participants from the Ministries of Health, Education, Labour, Secondary and Higher Education and Scientific Research, Foreign Affairs and Cooperation attended. The Planning and Statistical Services and the National Budget and the Regional Planning and Statistical Departments were also represented, as was the private Association for Family Welfare and Advancement. The seminar recommended that the Government expedite preparatory work for the population census and establish a permanent system for the collection of demographic data, and in particular improve the civil registration system; strengthen existing machinery for personnel training; and strengthen institutional arrangements for development planning.

The Government did not reply to the United Nations Third Population Inquiry among Governments on Population Policies in the Context of Development in 1976, transmitted to it in December 1975, presumably because it was then awaiting the results of the first population census, which was held in December 1976, thereby affording a basis, after its analysis, for a reappraisal of the Government's general population policy. In May 1977 a Seminar on Communication with Rural Areas on Population Problems was held under the auspices of the United Nations Educational, Scientific and Cultural Organization (UNESCO) and following this, the Government began implementation of a pilot project in the use of mass communications media to publicize public opinion on demographic trends, family well-being, family planning, literacy, advancement of women and youth and development.

Throughout this period the overall responsibility for formulation of population policy as an integral element of development policy formulation and development planning was that of the Ministry of Planning and Statistics which later became the Direction nationale du Plan et de la statistique. The General Statistical Service remained throughout a division of this institution, assuming close co-ordination of information collection, policy formulation and plan preparation. However, the Ministry of the Interior, Security and Defence was assigned responsibility for census organization. The Social Affairs secretariat was responsible for the pilot programme in family planning until absorption in the general health programme.

Size and growth of the population

Information available to the Government

Final results of the 1960-1961 demographic sample survey were published in 1968 and indicated a rate of natural increase of 2.5 per cent. During the last two years of the Government of President Keita an upward revision of estimated rates of natural increase to about 2.4 per cent had already taken place, and for much of the period of the Government of President Traoré the rate of 2.5 per cent was used for planning purposes. Thus, in 1970 a report prepared for the United Nations Food and Agriculture Organization (FAO) by French technical agencies noted that the officially accepted rate of natural increase was then 2.5 per cent. The three-year programme of economic and financial recovery for the period 1970-1972 also used this rate. Acceptance of the rate was confirmed by the United Nations Population Programme Officer in June 1971, after an official visit to the country, and was quoted in the country's report prepared for the African Population Conference held in Accra in December 1971. In December 1972 ECA reported as being the latest information available the final results of the 1960-1961 demographic sample survey, and the rate of natural increase of 2.5 per cent. In spite of this there was reissued without revision in May 1969 the population estimates and projections prepared in November 1963 by the General Statistical Service, which indicated for 1969 a rate of natural increase of 2.0 according to its first hypothesis, rising to 2.2 per cent in 1973.

In his speech at the plenary session of the United Nations World Population Conference held at Bucharest in August 1974 the Government's representative noted a rate of natural increase of 2.5 per cent, and this was reported also in a French official review of the country's situation published in April 1974. However, in an unofficial general survey of African countries published in that year, it was noted that the rate of natural increase was 2.6 per cent. The same survey reported that the estimated total population in July 1973 had been 6,376,000 and early in 1976 it was reported by the United Nations Regional Adviser in Demography that it was then expected that the census to be held in December 1976 would enumerate a total of 6,500,000 persons.

In its five-year development plan for the period 1974-1978, the Government reported that the annual rate of natural increase was estimated to be 2.7 per cent, on the basis of an assessment made in 1972. Also, in the development plan, the Government noted that the total population, on the basis of an assessment made in 1972, was expected to reach 6,001,000 in 1976 and 6,163,000 in 1977, rising to 10,000,000 by the year 2000.

The provisional results of the census published in February 1977 in Bamako and reported by UNDP in fact enumerated a total of 6,308,000. In a general review of the situation in the country on the occasion of the

then forthcoming visit of the President of France in February 1977, a French journal published in November 1976 noted a rate of natural increase which was still 2.5 per cent. However, in a study of demographic trends in the Sahelian countries published in 1975, it was considered that rates of natural increase were much lower than recently suggested, because of underenumeration in earlier censuses and surveys and an over-optimistic view of the extent of mortality decline. Thus an average annual rate of 1.7 per cent for 1975, increasing to 2.4 per cent only in 2000, was suggested.

As was the case during the period of the Government of President Keita, the period 1968-1976 was characterized by a virtual absence of demographic studies other than the census taken in December 1976. Thus one of the major foreign academic studies of population growth and socio-economic development in Western Africa, published in 1973, which included studies of almost all independent countries in western and central Africa, contained no study of Mali. 4/

Government perception of size and growth in relation to development objectives

The Government of President Traoré shared the views of its predecessor with respect to the natural resource potential of the country. The results of the agricultural inquiry of 1968-1969 indicated that the total area cultivated was 1.8 million hectares, of which 1.7 million were within traditional holdings. However, this represented a very small proportion of the 31 million hectares which constituted the southernmost one quarter of the total land area considered to receive on average sufficient rainfall to permit agriculture. 5/ In his address to the plenary session of the United Nations World Population Conference in August 1974 the Government's representative stated that a substantial expansion in cultivated areas was possible. A review of the country's situation published by a French journal in November 1976 on the occasion of the forthcoming visit to Mali of the French President noted that the land resources had a very high potential, particularly within the valleys of the Niger and Senegal Rivers.

4/ J.C. Caldwell, Crossaince démographique et évolution socio-économique en Afrique de l'Ouest (New York, Population Council, 1973). Nor did it include studies of Guinea, Congo, Central African Empire and Equatorial Guinea. Mauritania, Rwanda and Burundi also were not separately treated, but their exclusion was possibly because they were outside the boundaries of the region under consideration (i.e., in the Maghreb and East Africa, respectively).

5/ The proportion of the total area considered suitable for cultivation was reported in October 1973 by the United Nations Development Programme in its summary of assistance required by the Government during the period 1974-1976, while the results of the agricultural inquiry of 1968-1969 were reported by the United Nations Population Programme Officer in 1971.

The United Nations Development Programme in its 1973 report, the Government's representative at the World Population Conference in August 1974, and subsequent reports have stressed the substantial unused mineral resources of the country as an addition to the land resources previously taken into consideration.

With respect to production of adequate food supplies, the Traoré Government was much less optimistic than its predecessor. Its three-year programme of economic and financial recovery for 1970-1972 pointed out that during the period 1959-1968 agriculture received a far from adequate proportion of investment. Consequently, the increase in production from the primary sector between 1959 and 1968 had been only 16 per cent, considerably less than that of the increase in total population. Moreover, although exports of ground-nuts and cotton had increased, imports of cereals had been necessary. During the period from 1968 to 1973 the drought which affected the entire Sahelian zone made necessary import of considerable quantities of food as emergency supplies, particularly to populations resident away from irrigable land. During the period 1974 to 1976 more favourable climatic conditions permitted not only achievement of self-sufficiency in food, but the resumption of exports. However, the United Nations Special Sahelian Office, quoting from information collated by the Secretariat of the United Nations Conference on Trade and Development (UNCTAD) reported in November 1973 that the average annual rate of growth of agricultural production between 1963 and 1970 had been 0.8 per cent, in contrast to that between 1968 and 1971 of 2.9 per cent. The rates for food production alone for these two periods had, respectively, been 0.4 per cent and 3.5 per cent. However, in 1976-1977 insufficient rains again threatened a substantial decrease in agricultural production. Throughout this period, the Government has made no suggestion that the cause of the insufficiency of food supplies has been even in part a result of continued natural increase of the population. Rather, climatic conditions and the inadequacy of previous improvement in the technology and organization of the rural sector were considered responsible.

The Government of President Traoré emphasized the insufficiency of economic growth during the period of the preceding Government, noting in its three-year programme of economic and financial recovery for 1970-1972, that the average annual rate of increase in GDP had been 2.35 per cent, slightly less than the rate of increase of population. The stagnation of the agricultural sector was noted also by UNDP in its report of 1973. Constraints upon development were not considered to include the rate of natural increase, this view being stressed by the Government's representative at the United Nations World Population Conference in August 1974. In November 1976 it was reported that the Government considered that a substantial cause of the financial problems which were then constraining effective implementation of the development programme was imported inflation. The view that the international political and economic system was responsible for some at least of the demographic problems of Mali as of other developing countries was expressed at the World Population Conference.

With respect to actual size of population the Traoré Government indicated in the speech of its representative at the World Population Conference in August 1974 that it considered the country to be underpopulated in general terms, and specifically with respect to the desirable relationship between the labour force and natural resources. However, the size of the rural population was sufficient for immediate purposes although constrained by its low level of technological knowledge. The youthfulness of the population was perceived to be beneficial and in general the Government was not pessimistic about the future of relationships between population and development. In its three-year programme of economic and financial recovery, it implied that current rates of natural increase, believed to be about 2.5 per cent, were considered acceptable, since the planned rate of economic growth would result in an improvement in the level of living even after the effect of the rate of natural increase had been taken into consideration.

In its country statement prepared for the African Population Conference held in Accra in 1971 the Traoré Government was essentially pronatalist because of the vast area and small population of the country. A study of the interaction between demographic and economic processes in rural areas of Mali, published in 1975, stated that there was substantial rural underpopulation in relation to physical resources, although considerable technological development and local spatial adjustment were needed in order to allow for an effective relationship between human and physical resources.

Policy with regard to size and growth

The Traoré Government, in its three-year programme of economic and financial recovery for 1970-1972, emphasized economic expansion as the means of resolving problems of insufficient food production, stagnation of the agricultural sector, underemployment and unemployment and limited levels of technological and organizational modernization. Explicitly noting that economic growth should exceed population increase, it established a target of an annual average increase of 5 per cent in GDP, double the assumed rate of natural increase.

Expansion in production of food crops was to be at the slightly higher rate of 5.4 per cent during the plan period. Expansion in the number of jobs in the modern sector would also be at the rate of 5 per cent.

In the national report prepared for the African Population Conference held in Accra in 1971, it was noted that the position of the Traoré Government, although not yet explicitly stated, could be described as "pro-natalist", an understandable position given the vast territory and small total population of the country. The precise views of the Government concerning policy with respect to rate of natural increase and size and structure of the total population were expressed by its representative at the United Nations World Population Conference in August 1974.

The need for careful consideration of the demographic situation in the preparation of development strategies was acknowledged, and the importance of integrating fully any policy with respect to population within over-all development plans was stressed. It was stated that problems of underdevelopment were largely caused by the nature of the international political and economic situation, and that they would not be resolved unless an improvement in this over-all context for national development were to be achieved. While problems of excessive rates of natural increase in certain countries were acknowledged, and the obligation of the respective Governments to bring about a decline in those rates understood, it was pointed out that in some areas of the world the problem was one of underpopulation and not overpopulation. In Mali itself, any attempt to reduce levels of fertility prior to achieving an improvement in the basic living standards of the population, and prior to reducing substantially the high levels of maternal and infant morbidity and mortality, would be inappropriate. Consequently, an attempt to reduce rates of natural increase would be not only undesirable but not feasible. It was implied also that a reduction in mortality would be desirable not only for its benefits with respect to the health and welfare of the population but also for its effect upon rates of natural increase in the long term. In its five-year development plan for the period 1974-1978 the Government, noting the assumed average annual rate of natural increase of 2.7 per cent, stressed the importance of its proposed programmes of increased agricultural production.

The Plan was designed to expand the national economy, securing for primary products in particular the maximum value added, and to obtain the most effective distribution of national income by means of appropriate development of national resources, and the more effective integration of all sectors of the economy and all regions of the country. As long-term objectives the Plan envisaged the achievement of greater economic independence and the removal of the economy from its vulnerability to climatic factors. No policy was envisaged of attempting to modify the trend in rates of natural increase, assumed to be upwards with the decline in mortality.

Morbidity and mortality

Information available to the Government

In its report prepared on the occasion of the African Population Conference held in Accra in 1971 the Traoré Government noted that the principal causes of death had changed with medical progress. Vaccination campaigns had reduced smallpox, and preventive health measures had reduced malaria substantially, so that it was already a minor cause of death among the population aged 10 years and over. The same was not true of the population under 10, which suffered severely also from malnutrition. The severity and abruptness of change from breast-feeding to an adult diet was identified as a major problem. In October 1973 UNDP reported that control of traditional communicable diseases, notably tuberculosis, malaria, and smallpox remained still one of the Government's principal concerns.

Demographic information did not improve during the period. In 1969 the General Statistical Service republished in an unrevised form the estimates and projections of population first published in 1963, which indicated a most probable level of crude death rates of about 40 per thousand, higher than the rate of 32 suggested by the results of the 1960-1961 sample demographic survey. However, the United Nations Population Programme Officer reported in June 1971 that the Government was still using a crude death rate of 30 per thousand, and this rate was noted also in the national report prepared for the African Population Conference held in Accra in 1971 and in a report prepared by the United Nations Economic Commission for Africa in December 1972. In August 1974 the Government's representative at the United Nations World Population Conference reported an infant mortality rate of 120 per thousand live births, a crude death rate of 30 per thousand population and an average life expectancy at birth of only 35 years. The provisional results of the population census taken in December 1976 had not been analysed sufficiently to provide adequate information on mortality before the end of the period under discussion. However, during 1977, the need for a demographic sample survey using the census results as its basis, in order to provide information on fertility and mortality which could not be obtained from the census data itself was under discussion among government officials and United Nations specialists.

The drought conditions of the period from 1968 to 1973 and particularly the severe conditions existing in 1972 and 1973 were reported by some observers as likely to have brought about an increase in levels of mortality, particularly among infants. However, a number of studies of local populations indicated that traditional means of adjustment to drought had been utilized to obviate the more extreme impact. In a study published in 1975, a specialist in the demography of West Africa concluded that the impact upon mortality had not been as high as expected. Thus a survey undertaken by the Atlanta (United States of America) Centre for Disease Control in 1973 during the final month of the hungry period and the first month when new food was usually available, found 7 per cent of the sedentary children and 17 per cent of the nomad children suffering from severe malnutrition but significant incidence of kwashiorkor only in northern areas of the country.

Government perception of levels of morbidity and mortality

The Traoré Government maintained the same perception of levels of morbidity and mortality as that of the preceding Government, considering them to be entirely unacceptable. This was made clear in the various development programmes and plans and by the Government's representative at the United Nations World Population Conference held at Bucharest in August 1974.

Policy with regard to morbidity and mortality

The three-year programme of economic and financial recovery for the period 1970-1972 allocated slightly less than 6 per cent of its total

budget to the combined health and education sectors. However, the social sectors as a whole were given second priority to productive sectors, in part because of the previous substantial investment in them during the first plan period, and in part because of the large regular budget allocations still made to them. Priority was given to socio-preventive medicine and, with respect to curative services, to the consolidation and support of existing services, rather than to the creation of new ones. In 1969 and 1970 President Traoré reported considerable progress in the health field, in the latter year stating that infant mortality had been substantially reduced. In 1972 UNICEF also reported that, in spite of severe economic and financial conditions during the period of increasing impact of the Sahelian drought, the programme of improvement of health services had continued fairly normally. During the period of implementation of the three-year programme for 1970-1972, the Government was assisted by UNICEF in the preparation of a basic programme of services for children within comprehensive basic rural health services, on the basis of which the health sector programme was prepared within the succeeding five-year plan for the period 1974-1979. In 1970 and 1971 a considerable proportion of the services were mobilized to check a severe cholera epidemic, and it was realized at this time that cholera had become an endemic disease to be eradicated only by a substantially increased attention to environmental sanitation.

In 1973 UNFPA reported that the Minister of Health was aware of the problems associated with the still substantial concentration of services in Bamako, where 60 per cent of doctors were working, and this problem was confirmed by UNDP in October 1973. The current goals were continuation of vaccination campaigns against measles, smallpox and tuberculosis; extension and improvement of maternal and child welfare centres and activities, and expansion of school medical services. In its five-year development plan for the period 1974-1978 the Government noted that the health services had accounted for 11 per cent of the ordinary budget in 1972, but of that only 16 per cent was allocated to socio-preventive measures. The plan aimed to substantially increase the attention given to such programmes. In 1972 there had been one doctor for 40,000 inhabitants, one midwife for 31,000, one nurse for 3,333 inhabitants and one hospital bed for 1,428 inhabitants. The most important programme was that of maternal and child health services. Health programmes were to be closely integrated with major development projects. In his address to the United Nations World Population Conference in August 1974 the Government's representative stated that vigourous action was needed to reduce mortality, maternal and infant morbidity and levels of malnutrition. The regular budget for 1976 allocated slightly less than 7 per cent of its resources to the Ministry of Public Health and Social Affairs. During 1976, as part of the project "Mali-Sud", a comprehensive programme to improve health conditions was begun with assistance from the United States Agency for International Development. In June 1977 it was reported that the Organisation for Co-ordination and Co-operation against Great Endemic Diseases (OCCGE), of which Mali was a member, had adopted a new four-year programme in which priority would be given to the reduction of sleeping sickness and tuberculosis. The Government had begun to send students to the newly opened International Institute of Public Health in Benin.

Fertility

Information available to the Government

Demographic information on fertility levels during the period continued to be based upon the results of the 1960-1961 sample survey for which final results were published in 1968. The General Statistical Service republished in May 1969, without revision, its estimates and projections of demographic behaviour during the period 1963-1973 originally published in 1963. The information contained in that study was summarized in its country statement prepared for the African Population Conference held at Accra in December 1971 where it was stated that levels of fertility appeared constant at about 55 per thousand population. The same source was used in a comprehensive study of the country published by the French Government in 1974. The Government's representative at the United Nations World Population Conference in August 1974 implied acceptance of the same crude birth rate in quoting a crude death rate of 30 per thousand and a rate of natural increase of 25 per thousand population. The results of the December 1976 census were not analysed in sufficient detail to permit revision of demographic information on fertility levels before the end of the period under discussion. However, a study of demographic trends in Sahelian countries published in 1975 considered that average crude birth rates were only in the upper 40s.

Anthropological and sociological studies published during the period, although few in number, suggested that although various changes were occurring among both rural and urban populations, those sufficient to bring about an adjustment in fertility behaviour were likely to be limited to a very small proportion of the total population. This was indicated by a number of rural sociological studies as well as by reported proportions of the population, and particularly of the adult female population, engaged in salaried employment, and the proportion of girls receiving education. Thus the National Employment Office reported that in 1970, of the estimated total female resident population in Bamako of 83,285, of which about one half were aged between 15 and 59, only 1,171 were engaged in salaried employment. Of the 1,152,000 women in this age group in the country as a whole, only about 3,000 were engaged in the modern salaried sector, including in salaried government services. In 1977 it was reported that the level of school attendance had risen from 8 to 20 per cent of the school age population between 1960 and 1977 but that in the 1970-1971 school year girls constituted only about 30 per cent of primary students (79,000 out of 230,000). Only 269 out of 1,551 in teacher-training courses, and 77 out of 731 students in higher education of various types were women. In a comprehensive study of the development of social classes published in 1971 it was stated that the proportion of the total population which could be considered effectively engaged in the modern sector was only 4.5 per cent, while about 20.5 per cent were classified as of a "mixed" status in that they received some modern influence. A total of 75 per cent of the population remained entirely within the traditional society, and only 1 per cent were considered to be within an

"upper" element of the modern sector. Only 6 per cent of women aged between 15 to 60 were salaried.

In its country statement prepared for the African Population Conference held in December 1971 it was stated that for the majority of the population all religious beliefs supported high levels of fertility. In rural areas, the bearing of many children was a sign of the prestige of the head of the family. Moreover, children could be readily employed within agricultural and household occupations, and a large family indicated the ability to put into cultivation larger land areas.

Government perception of levels and trends of fertility

The Traoré Government indicated in the speech of its representative to the United Nations World Population Conference in August 1974 that as far as their contribution to rates of natural increase of the population were concerned, the current levels of fertility were acceptable. However, it indicated at this Conference and by its actions in supporting the pilot programme of family planning within maternal and child health services that its concern with the qualitative aspects of fertility behaviour has become substantial. In particular, the morbidity and mortality constraints upon achievement of desired completed size of family, and particularly upon the achievement of a desirable spacing of children were perceived to be serious problems. Moreover, accelerating urban growth, although acceptable in itself, was perceived to have led to changes in social attitudes forming the context of fertility behaviour which have made it difficult both to maintain traditional controls and also to substitute modern methods for them.

The study of demographic trends in Sahelian countries published in 1975 considered a change in levels of fertility to be not sufficient to alter crude birth rates during the remainder of the century.

Policy with regard to fertility

In its country report prepared for the African Population Conference held in Accra in December 1971 it was stated that the Government had adopted a generally pro-natalist position, although it had not made this explicit. Rather it was deduced from the actions which it had taken in the area of health and social security, whose effects were known to be pro-natalist. It was noted, however, that the implementation of such measures affected but a small proportion of the population. The vast majority remained attached to the traditional view that high levels of fertility were desirable, and the Government had taken no steps to alter this view. In its statement at the United Nations World Population Conference held in August 1974, the Government stressed the fact that it had long been of the opinion that the solution to demographic problems lay in comprehensive socio-economic development. It noted that in certain countries the level of fertility had fallen as a result of general developmental processes. Nevertheless, aware of the significance of demographic inertia, it pointed out that it had initiated a pilot programme of family planning. This programme had multiple objectives:

achievement of familiarity with the means needed to act at any future appropriate moment; a concrete response to the Universal Declaration of the Rights of Man and to the Government's own view of individual liberty; a vigourous programme of reducing sterility; and a limitation of the level of abortions which had become a serious problem as a result of changes in moral standards, notably in urban areas. It was recognized that there were formidable difficulties, not only as a result of the meagre resources available, but also because of the gap between the Government's objectives and the socio-cultural beliefs and mental attitudes of the population. Therefore, the situation was one which needed to be approached as a long-term activity. This appeared to the Government preferable to over-hasty intervention, particularly as it was aware of the irreversible consequences of adoption of family planning. It was thought especially important not to attempt a too abrupt departure from traditional behaviour. Thus, in general terms, the position of the Government was neither pro-natalist nor anti-natalist. Rather, over-all quantitative aspects of fertility, although recognized as having importance, were considered of less urgency than qualitative aspects, and preparations for a long-term modification of behaviour within the context of over-all socio-economic development were considered worthy of gradual careful governmental activity rather than of premature attempts to obtain a change which was unlikely and not feasible.

In its country statement prepared in October 1971 for submission to the African Population Conference in Accra, held in December 1971, the Government noted that approval had been given to the Secretary of State for Social Affairs to open a family planning clinic, but that this had not yet been done because of financial stringencies. In December 1971 the Government was represented by an official of the Ministry of Foreign Affairs at the International Islamic Conference on Islam and Family Planning held in Rabat, Morocco, and organized by the Middle East and North Africa Regional Office of the International Planned Parenthood Federation.

The pilot programme in family planning was not mentioned in the Traoré Government's three-year programme of economic and financial recovery for 1970-1972. During 1969 and 1970, however, women's organizations and trade unions had begun to discuss the need for the introduction of family planning services, and the Government had noted the appearance and expansion of problems which might be resolved thereby. It refused to situate family planning within the context of population policy, stressing its dominant health and family welfare aspects. In 1971 it decided, in co-operation with the Canadian International Development Research Centre, to establish a two-year pilot project whose over-all objectives would be to assemble information necessary for the preparation of a national family planning programme. A pilot clinic was established in Bamako with four branch clinics in various health facilities in the city. Research was undertaken into individual needs, and also into the possible demographic consequences of the spread of family planning. In July 1973 the Ministry of Health and Social Affairs considered that the experience of the pilot centre was such as to warrant

expansion of the programme. It was decided to establish a network of 12 branch clinics incorporated within health facilities in Bamako and the five other regional centres. By the end of 1974 six centres were operating in Bamako, and those in other cities were being established. It was decided also to merge family planning with maternal and child health services through the establishment of a National Family Health Service, with the establishment of 23 clinics by 1977. During 1972 a Family Planning Association was established to provide support to the official pilot programme, and the 1920 French laws which restricted access to modern contraceptives were repealed. In the same year the Government, in co-operation with UNICEF, contributed to an interministerial conference held at Lomé in Togo on childhood, youth, women and development plans in which the Government's position were expressed.

In May 1973 a Seminar on Family Planning was organized by trade unionists in Bamako. It recommended that the pilot project be expanded in view of the danger to health of mothers and children of repeated and too closely spaced pregnancies, associated increase in infant and maternal mortality and malnutrition, the marital problems arising from sexual abstinence during breast-feeding after repeated births, the fact that family planning was not synonymous with limitation of births because it was concerned equally with problems of sterility. The Seminar recommended also that research be undertaken into traditional contraceptive methods, as these had always existed. It was also recommended that health services be oriented towards prevention, supported by appropriate education and improvement of basic living standards, and that the slogan should be adopted that the best contraceptive policy was a policy of dynamic development. Improvement of provision of sex education was also recommended. In 1974 the Government, with assistance from UNDP, WHO and UNICEF, initiated a national family health service which included family planning services.

The Traoré Government maintained the previous policies of supporting continued improvement in status of women, continued implementation of the regulations relating to marriage introduced in 1963, continued improvement in education and maternal and child health services, and continued provision of family allowances. Although an aspect not included specifically in the three-year programme of economic and financial recovery for 1970-1972 President Traoré stressed the importance of continued improvement in the status of women in his speech on the occasion of the tenth anniversary of independence, in September 1970. In February 1973 a national seminar on women's problems was held. The Seminar on Family Planning held in May 1973 recommended that family planning services be expanded in order to contribute to the improved status of women which would be the result of better employment and family life. At the United Nations World Population Conference held in August 1974 the Government's representative stated that with respect to family policy, the existing code dealt in depth with the existing problems, and appeared appropriate. An important means of change in this area was over-all economic development and improvement in the level of living.

Immigration

No demographically significant immigration is known to have occurred during this period, and no statements of the Government's perception of the acceptability of the situation, or of its policy with respect to it are known. There was no mention of immigration in the country report submitted to the African Population Conference held at Accra in December 1971 nor was it mentioned by the Government's representative at the United Nations World Population Conference held in August 1974. Some immigration from Mauritania occurred during the worst years of the Sahelian drought, 1972 and 1973.

Emigration

Information available to the Government

In its report submitted to the African Population Conference held in December 1971 the Government stated that emigration was limited. The most important movement to adjacent countries was to the Ivory Coast, and consisted mostly of young persons. In addition there were seasonal movements to the same country, associated with livestock marketing. Migration to France continued, principally from the Kayes region. A study published in 1973 indicated that the movement to France was continuing, although there was some difficulty in establishing the country of origin of migrants from the middle Senegal valley, where the frontiers of Mauritania, Mali and Senegal passed among populations which were ethnically similar. During the Sahelian drought, and particularly in 1972 and 1973 when conditions were at their worst, a high proportion of the nomadic Tuareg population--numbering about 250,000--left the country for neighbouring Niger, and temporarily for more southerly regions.

Government perception of levels and trends of emigration

Known statements of the Government's perception of emigration during the period are limited to the observation made in the report submitted to the African Population Conference held in December 1971 that emigrants to France lived there in miserable conditions. No reference was made to the subject in the statement made by the Government's representative at the United Nations World Population Conference held in August 1974.

Policy with regard to emigration

The Traoré Government did not enter into new agreements with its neighbours or with France with respect to continuing emigration to those countries, although it did co-operate in the administrative control of movements. Its over-all policy appears to have been one of bringing about as rapid as possible an improvement in the basic living conditions of the rural population, thereby making it less and less necessary for young males to emigrate.

Spatial distribution

Information available to the Government

The country report submitted to the African Population Conference in December 1971 noted a population total of 150,000 for Bamako, which appears to have been based on an estimate earlier than the most recent then available. In October 1973 UNDP reported a total of 250,000. A foreign review published early in 1975 reported a total of about 350,000, and in February 1977 UNDP reported that the first national census of population, taken in December 1976, had enumerated a total of 400,000 for Bamako. During the same period a number of unofficial reports indicated a smaller population, most probably because an out-of-date source had been used. In 1972 and 1976 a local study of the demography of Bamako was published locally.

No information on the size of the regional and subregional urban centres was made available until the end of the period under discussion, when in February 1977 UNDP reported that the December 1976 census had revealed totals of 88,000 for Ségou, 75,000 for Sikasso, 74,000 for Kayes, 54,000 for Mopti and 51,000 for Gao. Other urban centres had a total of 158,000. These totals were considerably higher than previously noted: for example, the foreign publication which in January 1975 had reported a total for Bamako broadly consonant with the later census enumeration had indicated only 31,000 for Ségou and 29,000 for Kayes.

During the period a small number of studies of urban settlements appeared: in 1968 the Institut fondamental d'Afrique noire published a review of human settlements in the country. In 1974 a study n urban sociology was published within the country. In 1972 a general study of the second order centre of Kayes was published within the country as part of a comprehensive regional study.

Official estimates of the proportion of the population resident in urban centres indicated a steady increase in that proportion during the period. The country report submitted to the African Population Conference in December 1971 noted a proportion of 6.3 per cent (300,000 persons), and a current rapid increase in the urban population, but it appears that this was based upon an earlier estimate. In October 1973 UNDP reported that about 11 per cent of the population were resident in urban areas, and in 1974 a French Government review of the general developmental situation noted that a survey in 1969 had indicated a total of 500,000 persons in urban areas, about 10 per cent of the total. Sixteen per cent of the total population were engaged in occupations other than agriculture.

In its five-year development plan for the period 1974-1978 the Government noted a rate of population growth of 2.3 per cent in rural areas and 5.7 per cent in urban areas, on the basis of an assessment made in 1972. In his speech at the United Nations World Population

Conference in August 1974 the Government's representative noted that over 80 per cent of the population were rural residents. In February 1977 UNDP reported that the December 1976 census had revealed an urban population of about 800,000, or 13.3 per cent of the total population. Exactly half of this population was resident in the metropolitan centre, whose primacy was thus firmly established, the population of the second largest centre, Ségou, being only 88,000. In a study of the demographic implications of the Sahelian drought published in 1975 a continuing substantial rural to urban migration was forecast.

During the period the few additional sources of information confirmed what was previously known of the patterns of distribution of the rural population and the nature of its movement. Although administrative enumerations were made in 1968, a French Government review of the situation in the country published in 1974 utilized the results of the 1960-1961 demographic sample survey as the basis for preparation of a population density map, and included a comprehensive review of the rural economy. The results of the December 1976 comprehensive population census had not been analysed in detail by the end of the period under discussion, but will provide detailed information on the distribution of the rural population when analysis is completed.

In 1975 the results were published of a study prepared by Malian students at the United Nations Institute for Demographic Training and Research at Yaoundé, United Republic of Cameroon, on the interrelationship between demographic and economic trends upon the transformation of the rural sector.

During the period a number of detailed studies were completed on local populations. Many concerned the nomadic populations, partly in view of the severe impact of the Sahelian drought upon them, but studies of the sedentary population were made.

With respect to rural to urban migration the French Government review published in 1974 noted that a substantial movement was occurring, and a survey of the demographic impact of the Sahelian drought also noted substantial rural to urban movement, largely of a temporary nature. In its country statement submitted to the African Population Conference in December 1971 it was noted that a considerable movement of young males to the urban centres was occurring, particularly during the dry season period of reduced agricultural work. Movements to recently established areas of industrial development had also taken place.

Government perception of spatial distribution

Although apparently not considering rural to urban movement as undesirable in itself, the Traoré Government began to express some concern with the rapidity of the acceleration of movement to the metropolitan centre. However, in the conditions extant during the Sahelian drought of 1968-1973 it was not possible to determine to what extent such movement represented a permanent rather than a temporary response to rural

conditions. Although the growth of urban centres in functional effectiveness as in population size was perceived to be an essential part of the modernization of the country, the Government's priority to comprehensive rural development was intended in part to ensure that there was no excessive movement from those areas, particularly of those best qualified by experience and education to generate rapid development in rural areas. The pattern of urban centres and of rural occupancy was perceived to be acceptable in its over-all configuration, although an improved adjustment in order to prevent further damage to the physical environment was believed to be essential.

Policies with regard to spatial distribution

The Traoré Government adopted no policy designed to limit growth of population in either the metropolitan or other urban centres, its three-year programme of economic and financial recovery for the period 1970-1972 including only responsive measures in the form of investment in urban infrastructure. However, the situation was substantially affected during the period 1968-1974 by the large-scale movement from rural areas of both sedentary and nomadic populations seeking refuge from drought conditions. In its development plan for the period 1974-1978 the Government emphasized rural development.

The previous Government's emphasis upon general rural development was continued. In its three-year programme of economic and financial recovery for the period 1970-1972 the Government stated that expansion of rural production was the basis of the programme of recovery, and of any subsequent development. In addition, the education system was to be revised in order better to prepare the rural population for activities within that sector. Such comprehensive development projects as those of the Office du Niger were to be continued. In particular, substantial attention was given to increased rice production. In its report on country and intercountry programming of October 1973 on assistance requested by the Government for the period 1974-1976 UNDP confirmed that increased agricultural production was still receiving the highest priority. In March 1972 UNICEF reported that since 1970 there had been an "ideological pause" in the field of education in order to provide time for reflection on its fundamental purpose. During that period the Government had decided that ruralization of education had become the basis of fundamental education. In his statement to the United Nations World Population Conference in August 1974 the country's representative affirmed that an absolute priority had been given in the current five-year plan to the rural sector. The impact of the Sahelian drought had increased the Government's conviction that much greater attention to the sector was essential, and particularly that improved development of water resources was critical to all further progress. The Government's five-year plan for the period 1974-1978 emphasized this sector.

The Government has accordingly given considerable emphasis to the benefits expected from two major dams, one under construction at Sélingué on the Sankarani tributary of the Niger, affecting a large area

of the frontier region with Guinea, and one at Manantali on the Senegal River, in planning stage. In addition, a comprehensive project for development of cotton production in the Bamako-San-Ségou-Tominian regions has been implemented with substantial external assistance. It includes improvement of animal and human health and reduction in particular of onchocerciasis endemic in parts of the area. At the end of the period under discussion the Government's emphasis upon raid rural development remained unchanged.

While this emphasis has been perceived primarily as a means of achieving the objectives of socio-economic development in general, given the fact that over 80 per cent of the population remains resident in rural areas, the Government has been conscious also of the impact which an improvement in rural conditions is likely to have upon rural to urban migration, believed to have increased substantially during the period of the Sahelian drought, not entirely because of the special environmental conditions themselves, but also because of insufficient previous investment. Thus UNDP, in its report of October 1973, stated that the Government had explicitly indicated its belief that rural development programmes would reduce rural to urban migration. In its three-year programme of economic and financial recovery for 1970-1972 the Traoré Government pointed out that one of the conditions of success during the preceding period had been effective reduction of the exodus from rural areas implying that failure to do this was in part responsible for the failure of its general economic policies.

Expansion of the cultivated area had been an integral element of the traditional rural economy, as was mobility of village sites and frequent transfer to fallow and unused lands. The Government did not attempt to alter the pattern of settlements or occupy major unused areas. This was partly because of the severe constraints existing during the period of the Sahelian drought, partly because emphasis was placed upon technological changes to bring about increased productivity within existing areas. The Sahelian drought had a serious impact upon the distribution of the nomadic populations, however, and a high proportion moved out of the country completely, many to adjacent Niger. Although recent reports indicated a partial return, it was not clear whether previous distribution patterns had been resumed by the end of the period under discussion.

CONCLUSION

From the establishment of the Republic of Mali as a separate state in 1960 to the coup d'état of 1968, the Government of President Keita attempted to restructure a society which then consisted of a small colonial element established within a largely unchanged traditional society. It attempted to do so along generally socialist lines, with considerable rupture of pre-existing external relations. It considered that problems such as insufficient utilization of natural resources, urban unemployment and rural underemployment, poverty, low productivity of labour and high incidence of disease were the results of the unchanged nature of the traditional society, and the impact of the colonial system.

Demographic trends were considered not to be basically responsible for this situation, nor were they considered to be making any significant contribution to their continued existence. Because of its view that the natural resource potential of the country, notwithstanding numerous environmental constraints, was very substantial, the gradual expansion in the size of population was considered to be entirely acceptable. However, account was taken of what was known of the general demographic trend, during the formulation of the plans prepared in the early years of the period. This information, derived from local censuses and limited demographic sample surveys was considered adequate as a broad indication of the situation, although it was acknowledged that more detailed information would be required for specific planning purposes at a later phase in planned development.

The situation which prompted the greatest concern and held the most significance for demographic trends in general was the low health status of the population and consequent high levels of morbidity and mortality. The Government gave high priority, within its limited available resources, to the restructuring of health services and the improvement of nutritional status and water supplies. However, in this regard also, it considered that the problem were a consequence of the over-all structure of society, and of the priorities previously attached to production for export rather than for the domestic market. Levels of fertility were not considered to be too high, but concern was expressed for qualitative aspects, particularly those associated with the low health status of women. The problem was considered to be best dealt with in the context of an overall improvement in health, and in the status of men in society.

The spatial distribution of population was considered to be generally acceptable, although concern was expressed at local concentrations of population in which some evidence was identified of pressure on land resources at existing levels of technology. Rates of rural to urban migration were considered generally appropriate, given the very low existing proportion of the urban population. In this regard, it is significant

to note that there had existed prior to the French colonization an urban system with well established functional linkages with rural central places and the rural population.

The succeeding Government of President Traoré did not attempt to continue the programme of societal restructuring along socialist lines. Instead it stressed the re-establishment of an economy characterized by an acceptable trade balance and a balanced national budget. It emphasized improved productivity in the rural sector, based largely upon comprehensive programmes supported by French and European financial and technical assistance. However, during virtually the entire period from 1968 to 1976 the economic situation was overwhelmingly affected by the Sahelian drought. Its more severe effects were felt in 1972 and 1973, with a return to improved conditions in the period 1974-1976.

The Traoré Government has given considerable attention to problems to which it perceived demographic behaviour had contributed, and it has considered means of alleviating adverse effects in a number of respects. The demographic element was considered to be an integral element of the development process, and the solution to problems affected by demographic behaviour was felt to be an integrated and sustained developmental effort.

The Government gave considerable attention to qualitative aspects of fertility, particularly with regard to women in urban areas who were faced with a substantially different social and economic situation from that within which their traditional fertility behaviour had developed. In order to contribute to the resolution of this problem, an innovative programme in family planning was begun, the first in any Francophone African country. This was considered an important element in a broad programme designed to improve maternal and child health and welfare. The Government emphasized the fact that its purpose was to improve health and welfare, and was not designed to bring about any significant change in over-all demographic trends. In regard to these trends the Traoré Government continued the general policy of its predecessor in considering that economic factors were of greater significance than demographic in causing current developmental problems.

Mali: Selected demographic indicators, 1950-2000

Medium variant	1950	1955	1960	1965	1970	1975	1980	1985	1990	1995	2000
Population, total (in 1000) ...	3426	3730	4089	4530	5047	5697	6470	7374	8455	9746	11257
-- , males (--) ...	1701	1856	2037	2259	2516	2834	3214	3660	4194	4835	5586
-- , females (--) ...	1725	1874	2052	2271	2531	2863	3256	3714	4260	4911	5671
Pop. ages 0-4 to total (0/0)..	18.0	18.0	17.8	17.8	17.8	18.5	18.5	18.5	18.5	18.4	18.1
-- 5-14 --	25.1	25.4	25.8	25.7	25.6	25.5	26.1	26.7	26.9	27.0	27.2
-- 15-64 --	53.9	53.7	53.8	53.8	53.9	53.4	52.7	52.0	51.9	51.8	51.8
-- 65+	3.1	2.9	2.7	2.7	2.7	2.7	2.7	2.7	2.8	2.8	2.9
-- under 20 --	53.1	53.4	53.7	53.8	53.6	54.1	54.6	55.2	55.7	55.8	55.7
Women ages 15-49 to females (0/0)	46.5	46.5	46.8	46.7	46.6	46.0	45.3	44.7	44.7	44.7	44.9
Dependency ratios (per 1000)	856.9	861.3	860.3	859.6	853.9	874.2	898.7	921.6	927.3	931.6	930.2
Child-woman ratios (per 1000) ...	766.8	769.5	757.3	760.1	760.1	798.8	813.1	822.3	820.0	817.3	802.4
Sex ratios (per 100 females)	98.6	99.0	99.3	99.5	99.4	99.0	98.7	98.5	98.5	98.5	98.5
Median ages (years)	18.5	18.3	18.2	18.1	18.2	18.0	17.7	17.4	17.2	17.2	17.2
Proportion of urban (0/0)	8.1	8.9	9.9	10.9	12.1	13.4	15.0	16.6	18.5	20.6	22.9
Population density (per sq.km. ..	3	3	3	4	4	5	5	6	7	8	9
	1950-1955	1955-1960	1960-1965	1965-1970	1970-1975	1975-1980	1980-1985	1985-1990	1990-1995	1995-2000	
Rates of growth (0/0)	1.70	1.84	2.05	2.16	2.42	2.54	2.62	2.74	2.84	2.88	
Natural increase rates (0/00) ...	17.0	18.4	20.4	23.2	24.2	25.4	26.1	27.3	28.4	28.8	
Crude birth rates (0--) ...	50.1	50.1	49.4	49.8	50.1	49.4	48.8	47.7	46.8	45.2	
Crude death rates (--) ...	33.1	31.7	29.0	26.6	25.9	24.0	22.6	20.4	18.4	16.5	
Gross reproduction rates	--	--	--	--	3.30	3.30	3.30	3.25	3.16	3.01	
Net reproduction rates	--	--	--	--	1.95	2.03	2.10	2.16	2.20	2.19	
Total fertility rates (0/00)	--	--	--	--	6706	6706	6706	6604	6421	6104	
General fertility rates (--)	214.2	213.8	210.6	212.9	215.7	215.6	215.5	212.2	207.8	200.5	
Life expectancy, males (years)	32.7	34.0	35.2	36.5	36.5	38.5	39.9	42.4	44.9	47.4	
-- , females (--)	34.2	35.5	36.7	38.0	39.6	41.6	43.1	45.6	48.1	50.7	
-- , total (--)	33.5	34.7	36.0	37.2	38.0	40.0	41.5	44.0	46.5	49.0	

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High variant	1950	1955	1960	1965	1970	1975	1980	1985	1990	1995	2000
Population, total (in 1000) ...	3426	3730	4089	4530	5047	5722	6480	7400	8524	9891	11521
-- , males (--) ...	1701	1856	2037	2259	2516	2847	3219	3673	4230	4908	5719
-- , females (--) ...	1725	1874	2052	2271	2531	2875	3261	3727	4294	4982	5802
Pop. ages 0-4 to total (0/0).	18.0	18.0	17.8	17.8	17.8	18.6	18.4	18.5	18.7	18.9	18.7
-- 5-14 --	25.1	25.4	25.8	25.7	25.6	25.5	26.3	26.7	26.8	27.1	27.5
-- 15-64 --	53.9	53.7	53.8	53.8	53.9	53.2	52.6	52.0	51.7	51.2	50.9
-- 65+ --	3.1	2.9	2.7	2.7	2.7	2.7	2.7	2.7	2.8	2.8	2.8
-- under 20 --	53.1	53.4	53.7	53.8	53.6	54.2	54.7	55.2	55.9	56.2	56.5
Women ages 15-49 to females (0/0)	46.5	46.5	46.8	46.7	46.6	45.8	45.2	44.6	44.5	44.2	44.1
Dependency ratios (per 1000)	856.9	861.3	860.3	859.6	853.9	878.6	900.0	923.5	934.0	951.7	963.5
Child-woman ratios (per 1000) ...	766.8	769.5	757.3	760.1	760.1	806.1	809.4	825.3	835.3	846.6	843.2
Sex ratios (per 100 females) ...	98.6	99.0	99.3	99.5	99.4	99.0	98.7	98.6	98.5	98.5	98.6
Median ages (years)	18.5	18.3	18.2	18.1	18.2	17.9	17.7	17.4	17.2	17.0	16.8
Proportion of urban (0/0)	8.1	8.9	9.9	10.9	12.1	13.6	15.4	17.6	20.1	23.0	26.4
Population density (per sq.km...)	3	3	3	4	4	5	5	6	7	8	9
	1950-1955	1955-1960	1960-1965	1965-1970	1970-1975	1975-1980	1980-1985	1985-1990	1990-1995	1995-2000	
Rates of growth (0/0)	1.70	1.84	2.05	2.16	2.51	2.49	2.66	2.83	2.98	3.05	
Natural increase rates (0/00) ...	17.0	18.4	20.4	23.2	25.1	24.9	26.5	28.2	29.7	30.5	
Crude birth rates (--) ...	50.1	50.1	49.4	49.8	50.0	49.4	48.7	48.4	47.9	46.7	
Crude death rates (--) ...	33.1	31.7	29.0	26.6	24.9	24.5	22.2	20.1	18.2	16.3	
Gross reproduction rates	--	--	--	--	3.30	3.30	3.30	3.30	3.27	3.19	
Net reproduction rates	--	--	--	--	1.99	2.01	2.12	2.22	2.29	2.32	
Total fertility rates (0/00) ...	--	--	--	--	6706	6706	6706	6706	6645	6443	
General fertility rates (--)	214.2	213.8	210.6	212.9	215.7	215.6	215.5	215.5	214.3	210.1	
Life expectancy, males (years)	32.7	34.0	35.2	36.5	37.5	38.0	40.4	42.9	45.4	47.8	
-- , females (--)	34.2	35.5	36.7	38.0	40.6	41.1	43.6	46.1	48.7	51.2	
-- , total (--)	33.5	34.7	36.0	37.2	39.0	39.5	42.0	44.5	47.0	49.5	

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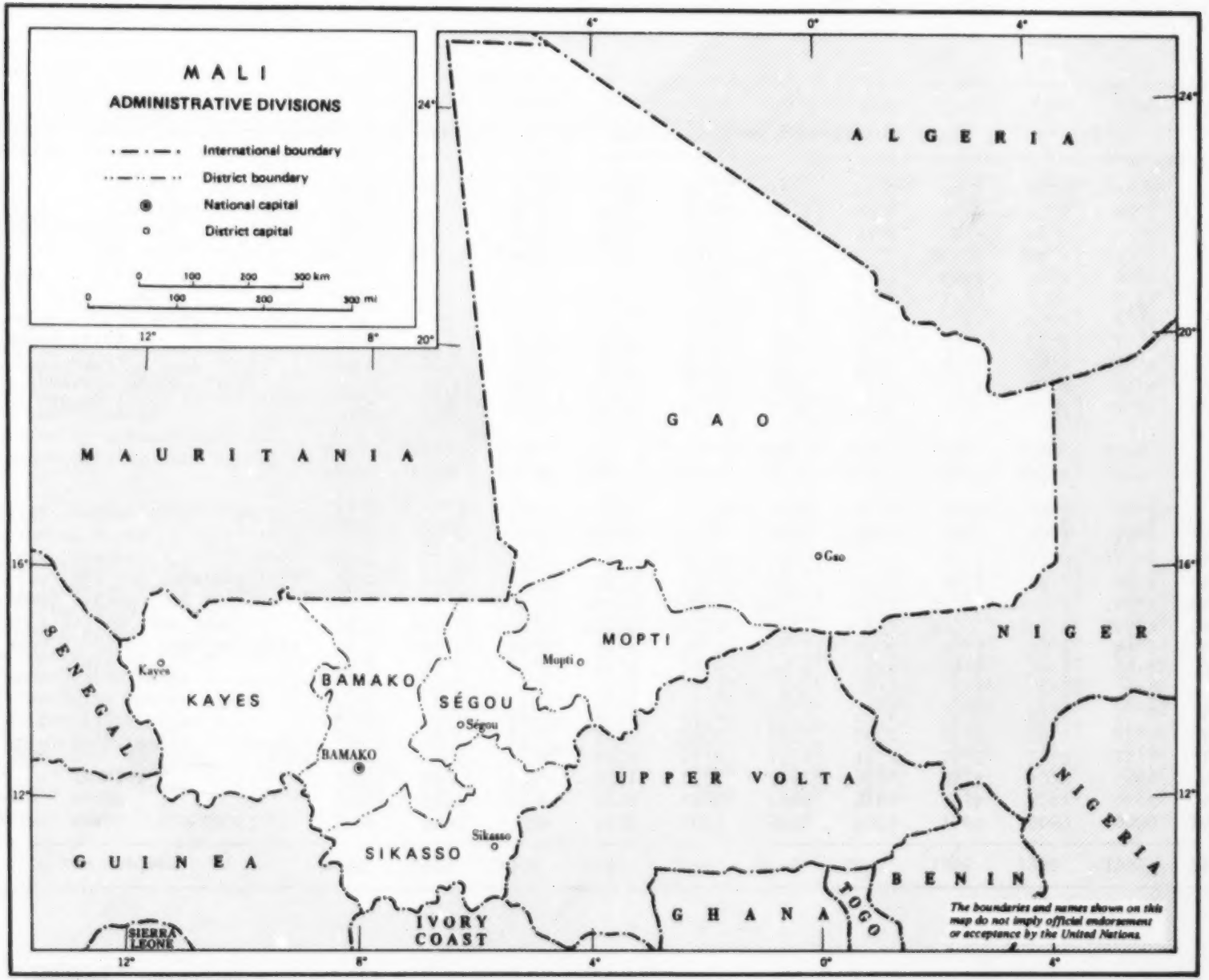
Low variant	1950	1955	1960	1965	1970	1975	1980	1985	1990	1995	2000
Population, total (in 1000)	3426	3730	4089	4530	5047	5671	6375	7169	8069	9080	10108
-- , males (--)	1701	1856	2037	2259	2516	2820	3165	3554	3997	4496	5002
-- , females (--)	1725	1874	2052	2271	2531	2851	3210	3614	4072	4585	5106
Pop. ages 0-4 to total (0/0)	18.0	18.0	17.8	17.8	17.8	18.3	18.3	18.0	17.8	17.3	16.0
-- 5-14 --	25.1	25.4	25.8	25.7	25.6	25.5	26.0	26.5	26.4	26.4	26.4
-- 15-64 --	53.9	53.7	53.8	53.8	53.9	53.5	53.1	52.8	53.1	53.6	54.7
-- 65+ --	3.1	2.9	2.7	2.7	2.7	2.6	2.6	2.7	2.7	2.8	2.9
-- under 20 --	53.1	53.4	53.7	53.8	53.6	54.0	54.4	54.6	54.7	54.2	53.0
Women ages 15-49 to females (0/0)	46.5	46.5	46.8	46.7	46.6	46.1	45.6	45.3	45.7	46.2	47.3
Dependency ratios (per 1000)	856.9	861.3	860.3	859.6	853.9	869.7	884.2	893.0	883.6	866.5	826.8
Child-woman ratios (per 1000) ...	766.8	769.5	757.3	760.1	760.1	791.3	795.0	788.8	770.3	740.7	668.4
Sex ratios (per 100 females)	98.6	99.0	99.3	99.5	99.4	98.9	98.6	98.3	98.2	98.1	98.0
Median ages (years)	18.5	18.3	18.2	18.1	18.2	18.0	17.8	17.7	17.8	18.0	18.6
Proportion of urban (0/0)	8.1	8.9	9.9	10.9	12.1	13.3	14.5	15.7	17.1	18.4	19.8
Population density (per sq.km.)..	3	3	3	4	4	5	5	6	7	7	8
	1950-1955	1955-1960	1960-1965	1965-1970	1970-1975	1975-1980	1980-1985	1985-1990	1990-1995	1995-2000	
Rates of growth (0/0)	1.70	1.84	2.05	2.16	2.33	2.34	2.35	2.37	2.36	2.14	
Natural increase rates (0/00) ...	17.0	18.4	20.4	23.2	23.3	23.4	23.4	23.7	23.6	21.4	
Crude birth rates (--) ...	50.1	50.1	49.4	49.8	50.2	49.7	48.6	47.2	45.1	40.8	
Crude death rates (--) ...	33.1	31.7	29.0	26.6	26.9	26.4	25.2	23.6	21.5	19.3	
Gross reproduction rates	--	--	--	--	3.30	3.30	3.24	3.13	2.93	2.59	
Net reproduction rates	---	--	--	--	1.91	1.93	1.93	1.93	1.88	1.73	
Total fertility rates (0/00)	--	--	--	--	6706	6706	6577	6348	5954	5258	
General fertility rates (--)	214.2	213.8	210.6	212.9	215.7	215.7	212.2	205.6	194.4	172.4	
Life expectancy, males (years)	32.7	34.0	35.2	36.5	35.5	36.0	37.0	38.5	40.4	42.4	
-- , females (--)	34.2	35.5	36.7	38.0	38.6	39.1	40.1	41.6	43.6	45.6	
-- , total (--)	33.5	34.7	36.0	37.2	37.0	37.5	38.5	40.0	42.0	44.0	

Source: World Population Prospects as Assessed in 1973 (United Nations publication, Sales No. 76.XIII.4).



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JUNE 1976

BIBLIOGRAPHY

I. The period 1960-1968

The political and economic situation

Brasseur, G. Le Mali. In Notes et études documentaires (Paris), nos. 4,081-4,083, 22 avril 1974. 113 p.

Foltz, W.J. From French West Africa to the Mali Federation. New Haven, Yale University Press, 1965. 235 p.

O'Brien, D.B. Cruise. Recent history. In Africa South of the Sahara, 1975. London, Europa Publications, 1975. pp. 523-524.

Sy, M.S. Recherches sur l'exercise du pouvoir politique en Afrique noire (Côte d'Ivoire, Guinée, Mali). Paris, Editions A. Pedone, 1965. 230 p.

Thompson, V. and R. Adloff. French West Africa. Stanford, California, Stanford University Press, 1967. 504 p.

Development planning, including perceptions and policies with regard to the relationships between demographic behaviour and development

Amin, S. Trois expériences africaines de développement: le Mali, la Guinée et le Ghana. Paris, Presses Universitaires de France, 1965. 233 p.

Bezy, F. Les problèmes économiques du socialisme au Mali. Cultures et développement (Paris), 1:295-343, 1968.

Banque centrale des états de l'Afrique de l'ouest. Comptes économiques du Mali, 1956. Paris, février 1960. 54 p.

Capian, A. Sur l'origine des difficultés économiques de l'option socialiste du Mali. Afrique contemporaine (Paris), 62:6-15, juillet-août 1972.

Comité inter-états pour l'aménagement du bassin du fleuve Sénégal. Propositions concernant la coopération pour le développement économique. Dakar, 1966. 421 p.

Comptes économiques du Mali, 1959. Paris, Paul Dupont, 1962. 170 p.

Danilov, P. P. and B.C. Svetlov. Mali. Moskva, Misli, 1970. 149 p.

Dement'ev, Iv. P., Respublika Mali politiko-ekonomicheski ocherk. Moskva, Izdat, Vostochnoi literaturi, 1962. 89 p.

Dessau, J. Le Mali: une expérience partielle d'indépendance économique. In L'Afrique de l'indépendance politique à l'indépendance économique. By J. De Esseks and others. Grenoble, François Maspero - Presses universitaires de Grenoble, 1975. 275 p.

France. Direction de la documentation. La République du Mali. Notes et études documentaires (Paris), no. 2,739, 13 janvier 1961. 65 p.

_____. Ministère de la Coopération. Economie et Plan de développement, République du Mali. Paris, 1965. 135 p.

_____. Secrétariat d'état aux relations avec les états de la communauté. République du Mali; économie et Plan de développement. Paris, octobre 1960. 24 p.

Jones, W.I., Planning and economic policy: Socialist Mali and her neighbours. Washington, Three Continents Press, 1976. 422 p.

Keita, M. Modibo Keita: a collection of speeches, September 22, 1960-August 27, 1964. Moscow, n.publ., 1965. 282 p.

Le gouvernement du Mali s'attache à dominer de sérieuses difficultés économiques. Marchés tropicaux (Paris), no. 1073:1561-1562, 4 juin 1966.

Mali. Ministère du Plan et de l'économie rurale. Rapport sur le Plan quinquennal de développement économique et social de la République du Mali. Bamako, 1961. 42 p.

Martin, G. Socialism, economic development and planning in Mali, 1960-1968. Canadian Journal of African Studies (Montreal), 10:23-46,1976.

Megahed, H.T. Socialism and nation-building in Africa, the case of Mali (1960-1968). Budapest, Center for Afro-Asian Research of the Hungarian Academy of Sciences, 1970. 41 p. Studies on developing countries, 36.

Radchenko, G.F. Respublika Mali. Moskva, Misli, 1969. 292 p.

Résolutions de la conférence économique de Mopti. Le Mali (Bamako), 1:16-18, 1965.

Spitz, G. Le soudan français. Paris, Editions maritimes et coloniales, 1955. 111 p.

Sylla, S. Djim. Planification économique intégrale au Mali. Document prepared for the Meeting on Integral Economic Planning organized by the United Nations Economic Commission for Africa at Addis Ababa in October 1962. 25 September 1962. (E/CN.14/CP/5).

United Nations Economic and Social Council. Economic Commission for Africa. Report of a mission for the study of problems and prospects in rural development of Mali, Niger and Upper Volta. 15 February 1966. (E/CN.14/SWCD 29). 249 p.

Vladimirova, K.V., Respublika Mali: sotsial'no-ekonomicheskie problemy. Moskva, Nauka, 1970. 135 p.

Demographic information

Andrianov, B.V. Naseleniye Afriki (etnostatisticheski obzor). Moskva, Nauka, 1964. 275 p.

France. Institut national de la statistique et des études économiques. Service de Coopération. Etude démographique du delta vif du Niger. Fascicule 1. Résultats sommaires. Paris, 1962. 45 p.

---. Bamako: Recensment 1958. enquête démographique 1960-1961: resultats définitifs. Paris, 1969. 102 p.

---. Enquête démographique au Mali, 1960-1961. Paris, 1968. 349 p.

---. Ministère de la coopération. Perspectives de population dans les pays Africains et malgache d'expression française: étude de synthèse des enquêtes démographiques récentes. Paris, décembre 1963. 50 p.

Gallais, J. Quelques particularités démographiques de l'Afrique noire. Bulletin de la faculté des lettres de l'université de Strasbourg. 1964. p. 325-349.

Mali. Ministère de l'économie rurale et du Plan. Etude démographique de la République du Mali. Bamako, 1960. 4 fascicules.

---. Ministère du Plan de l'équipement et de l'industrie, Service de la Statistiques générale, de la mécanographie et de la comptabilité nationale. Perspectives démographiques du Mali (estimations de 1963-1973). Bamako, novembre 1963. 23 p. (mimeo.)

Pales, L. and Tassin, de Saint Péreuse, M. L'alimentation en Afrique occidentale française: milieux, enquêtes, techniques, rations. Dakar, ORANA, 1954.

Péllissier, P. Renseignements statistiques sur la population du Soudan. Bulletin de l'IFAN (Dakar), 13:257-260, 1951.

Perceptions of demographic behaviour and population policy not previously cited

Aujoulat, L.P. Aspects statistiques et démographiques de la main-d'oeuvre importée des pays chauds et tropicaux. Bulletin de la société de pathologie exotique (Paris), p. 716-737, 1964.

Beuchelt, E. Traditionnelle und moderne Jugenderziehung in West Sudan. Sociologus (Berlin), 2:147-160, 1961.

Calame-Griaule, G. Le rôle spirituel et social de la femme dans la société soudanaise traditionnelle. Diogène (Paris). 37:81-92, 1962.

Decheix, P. L'engagement de monogamie dans le code malien du mariage Revue juridique et politique (Paris), 21:118-129, 1967.

Diarra, O.B. La sécurité sociale au Mali. Revue belge de sécurité sociale (Bruxelles), 11:15-44, janvier 1969.

_____. La sécurité sociale en République du Mali. Cahiers africains de la sécurité sociale (Genève), 7:1-38, 1970.

Dicko, O.B. Le mariage et le divorce au Mali. Recueil Penant (Paris). 75:319-329 and 471-486, 1965.

Diop, M. Histoire des classes sociales dans l'Afrique de l'ouest. Tome I. Le Mali. Paris, François Maspero, 1971. 260 p.

Dolo, S. L'encadrement médical en zone rurale: problème dominant de l'évolution sociale en République soudanaise. Médicine d'Afrique noire (Dakar), pp. 37-38. août 1960.

Dumont, R. Afrique noire: développement agricole, reconversion de l'économie agricole: Guinée, Côte d'Ivoire et Mali. Paris, Presses Universitaires de France, 1962. 212 p.

_____. L'Afrique noire est mal partie. Paris, Editions du Seuil, 1962. 254 p. Published in English translation as False Start in Africa. London, André Deutsch, 1966. 328 p.

International Labour Review (Geneva). 90:183-184, August 1964.

Introduction de la sécurité sociale au Mali. Revue internationale de travail.(Genève), 89:689-692, 1964.

Keita, A. L'action des femmes est primordiale dans la construction de l'Afrique nouvelle. Afrique (Dakar), p. 26-29, mars 1966.

Knops, P. La famille senufo. Bulletin de société royale belge d' anthropologie et préhistoire (Bruxelles), 74:69-85, 1963.

Les perspectives agricoles et industrielles du Mali. Marchés tropicaux et méditerranéens (Paris), 22:1806, 24 juin 1967, no. 1128.

Les travailleurs africains noires en France. Bulletin de l'IFAN (Dakar), 30:884-1004, 1968.

Letnev, A.B. Problems in the development of family relations in West Africa. International social science journal (Paris), 16:400-410, 1964.

Traoré, M.L., Le droit de la famille au Mali. In Séminaire régional sur le droit et les problèmes démographiques dans les pays d'Afrique francophone. Lomé, Département de sociologie et histoire du peuplement de l'Institut national de la recherche scientifique et l'Ecole de Droit de l'Université du Bénin, 1975. pp. 93-131.

United States of America. National Academy of Sciences, Division of Medical Sciences and National Research Council. Public health problems in 14 French-speaking countries in Africa and Madagascar. Washington, D.C., 1966. Vol. II. pp. 278-282.

Information, perception and policy on spatial distribution of population

Brasseur, G. Une ville de la République du Soudan: San. Les cahiers d'outre-mer (Bordeaux), 12:225-250, juillet-septembre 1959, no. 47.

Callaway, T.R. A countermagnet to the capital: the case of Djoliba. International development review (Washington, D.C.), 8:18-24, 1966.

Dupuis, J. Un problème de minorité: les nomades dans l'état soudanais. L'Afrique et l'Asie (Paris), 50:19-44, 1960.

Hopkins, N.S. Socialism and social change in rural Mali. Journal of modern African studies (Cambridge). 7:457-467, 1969.

Miner, H.M. The primitive city of Timbuctoo. Memoirs of the American Philosophical Society (Princeton). 32:14-16, 1953.

Villien-Rossi, M-L. Bamako, capitale du Mali. Bulletin de l'Institut fondamental d'Afrique noire (Dakar), 28, 321-380, janvier-avril 1966.

II. The period 1968-1976

The political and economic situation

Bennett, V.P. Military government in Mali. Journal of modern African studies (Cambridge), 13:249-266, June 1975.

Golan, T.K. L'anatomie du coup d'état malien du 18 novembre 1968. Revue française d'études politiques africaines (Paris). 99:27-51 mars 1974.

Development planning, including perceptions and policies with regard to the relationships between demographic behaviour and development

Dubois, V.D. Food supply in Mali. American universities field staff reports, West Africa series. (Hanover, New Hampshire), 16, 1975, no. 1, 14 p.

Europe Outremer (Paris), no. 562:21-29, novembre 1976.

Industries et travaux outre-mer (Paris), 22:944-947, novembre 1974, no. 252.

Mali. Présidence du Gouvernement. Direction Générale du Plan et de la statistique. Programme triennal de redressement économique et financier, 1970-1972. Bamako, juin 1970. 251 p.

_____. Plan quinquennal de dévelcppement économique et social, 1974-1978. Bamako, 1974. 5 v.

Meillassoux, C. A class analysis of the bureaucratic process in Mali. Journal of Developing Studies (London), 6:97-110, January 1970.

Traoré, M. Deux années de gestion du Comité Militaire de Libération Nationale, Déclarations du Lieutenant Moussa Traoré. Koulouba, Imprimerie nationale, 1971. 276 p.

United Nations. Development Programme. Governing Council. Seventeenth session. Country and Intercountry Programming: Mali. UNDP assistance requested by the Government of Mali for the period 1974-1976. 29 October 1973. (DP/GC/MLI/R.1).

Vladimirov, Y. The Republic of Mali today. International affairs (Moscow) April 1977. pp. 116-120.

Demographic information

Bergues, H. L'immigration des travailleurs africains noirs en France et particulièrement dans la région parisienne. Population (Paris), 28:59-79. janvier-février 1973.

Diallo, Y.M. Les Tengeregif:une population du Sahel malien. Population (Paris), 31:937-942, juillet-octobre 1976.

Haeringer, P. Cheminement migratoires maliens, voltäiques et nigériens en Côte d'Ivoire. Cahiers ORSTOM (Paris) 10:195-201, 1973. Série sciences humaines.

Mali. Service de la statistique. Enquête démographique au Mali, 1960-1961. Bamako, 1969.

Nations Unies. Commission économique des Nations Unies pour l'Afrique. Union internationale pour l'étude scientifique de la population en coopération avec la Féderation internationale pour le planning familial. Conference africaine sur la population. Accra, Ghana, 9-18 décembre 1971. La population du Mali. 14 Octobre 1971. 12 p. (POP/INF/73).

Perceptions of demographic behaviour and population policy not previously cited

Caldwell, J. The Sahelian drought and its demographic consequences. Washington, D.C. American Council on Education, Overseas Liaison Committee, December 1975.

Laplante, A., Samaké, F. and Brown, G.F. Family planning in Mali. Ottawa, International Development Research Centre, 1975. 12 p.

Séminaire régional sur le droit et les problèmes démographiques dans les pays d'Afrique francophone. Lomé. Département de sociologie et histoire du peuplement de l'Institut national de la recherche scientifique et l'Ecole de droit de l'Université du Bénin, 1975. 256 p.

Information, perception and policy on spatial distribution

Bleneau, D. Démographie bamakoise. Etudes maliennes (Bamako), 19:1-36 octobre 1976.

_____. Les problèmes climatiques de la sécheresse. Etudes maliennes (Bamako, no. 13:28-46, avril 1975.

_____ and La Cognata, G. Evolution de la population de Bamako. Etudes maliennes (Bamako), no. 3:26-46, septembre 1972.

Gibbal, J-M. Début d'une enquête de sociologie urbaine: problème de méthode. Etudes maliennes (Bamako), 9:77-84, mars 1974.

Hubert, J. Une opération de développement rural au Mali: l'opération 'arachide'. Coopération et développement (Paris), 43:16-27, novembre-décembre 1972.

Marchal, J-Y. L'Office du Niger: îlot de prospérité paysanne ou pôle de production agricole. Canadian journal of African studies (Montreal). 8:73-90, 1974

Swift, J. Le nomadisme pastoral en tant que forme d'utilisation des terres: les Touareg de l'Adrar des Iforas. Etudes maliennes (Bamako). 35-44, avril 1973.

_____. Une économie nomade sahélienne face à la catastrophe: les Touareg de l'Adrar des Iforas (Mali). In Copans, J., editor Sécheresses et famines de Sahel. Tome 2. Paris, François Maspero, 1975. p. 87-101.

Bibliographies

Brasseur-Marion, P. Bibliographie générale du Mali, 1961-1970. Dakar Institut fondamental d'Afrique, 1976. pp. 151-160. Catalogues et documents, XVI-2, 284 p.

Imperato, P.J. Historical dictionary of Mali. Metuchen, New Jersey, Scarecrow Press, 1977. 204 p. Bibliography, pp. 121-204.

Litho in United Nations, New York
24099–November 1978–4,500